

TOM HARRIS

Start-up

A Practical Guide
to Starting and Running
a New Business

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Tom Harris

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A Practical Guide to Starting and Running a New Business

With 24 Figures and 19 Tables

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Introduction

Starting and running your own business is one of the most common dreams that people share. The prospect of being your own boss, reaping the full rewards of your hard work or building something meaningful, all drive thousands of people to take the plunge each year. Unfortunately investors report that they only invest in one in every hundred of the plans they see, and of them, one in five are successful. Even including businesses that don't require investment, a third of Start-ups do not last two years.

The reasons for this tragic failure rate are varied but a great deal of responsibility lies in poor appreciation of what is involved in starting a business, poor planning and a poor understanding of what customers really want and need. Your start-up business is a sophisticated and complex thing. There is no shortage of advice available to help you, but too often the individual subjects are treated in isolation without a means of drawing the whole picture together.

This book has been written to provide you with a user guide for your new business. We will start right at the beginning by analysing your business opportunity to make sure that it is built on solid foundations. We will then look at the legal aspects of protecting your ideas, incorporating your company and the responsibilities that go with it. We will look at financing, cash flow and what investors look for in a business. We will build financial models and business plans and finally look at developing the team that will help you achieve your goals.

This book will help anyone who has started or wants to start their own business. It will be particularly useful for researchers and inventors that have developed a technology that they can build into a product or service.

My own career started as a university researcher developing novel computing systems for analysing complex data. I was always more interested in the applications of the technology rather than the technology itself and so the research group I built focussed exclusively on developing commercial applications and exploitable opportunities for the research. One such project was exciting enough to form a start-up company. With the invaluable help of two business angels, the company was formed, raised significant finance and went on to develop an award winning product. We got a lot of things right, but we also made a lot of mistakes along the way, both of which were tremendous learning activities.

On leaving the company, I started a management consultancy to help other start-ups, particularly technology businesses, make the most of their opportunities. Hi Consulting has worked with many entrepreneurs to analyse their opportunity and build their foundations. Part of this work has been the development of a highly successful course for researchers, entrepreneurs and inventors to gain an appreciation of the business world and what is involved in creating a Start-up. This book has grown from the course but is not intended as a text book; it is intended to help you actually do it, not just pass an exam in it.

So let's get down to business.

1 How good is your idea?

This book has been written to help you start and run your own business. There are lots of issues that need to be discussed including raising finance, cash flow, protecting your ideas and marketing, but the most important thing to look at first is the quality of your idea and whether it has the legs to deliver everything you want to achieve.

Obviously you think your idea is great, you would not be thinking of investing your time and resources on it if you were not convinced. Sometimes, however we can be too close to something to see the problems with it. We can all think of examples of shops that have opened in the local high street where you look at it, scratch your head and think 'why would someone open a shop like that here?' Sure enough, six months later the 'To Let' sign is back again. If you knew that the idea was flawed, why didn't they, why didn't their friends, their bank manager or their family see what was wrong and warn them?

This first chapter is intended to help you properly analyse your business idea. We are going to look at who and where your customers are and what they want from you. Then who the competition is and how you are going to compete with them. The analysis will require you doing some homework and some thinking, so grab some paper and pens, probably some coffee too, and we will get started.

1.1 A stable platform

Since we are talking about the foundations of your business we need to make sure that it is built on a solid platform. There are three basic pillars that are going to support this platform; these are the market, the industry and your team!

If any one of these pillars is weak, the business is likely to suffer as a consequence and may even fail completely. We will look at the needs of your team later in the book. I am sure you realise the hard work and dedication running your business will take. For now let's start by analysing the other two pillars; your market and your industry.

1.2 Industries and markets

So what is the difference between an industry and a market and is it important? A simple definition is that a market consists of customers whereas an industry consists of sellers, and the distinction can be crucially important.

Consider organic food production. The market size in the UK is over \$1.2bn and it is growing at 10% per annum. There are government initiatives to persuade people to eat more fresh vegetables and there is an increasing population, all driving up the demand within the marketplace. The market attractiveness is good. Now consider the industry: the vast majority of organic food sales are through a hand full of supermarket chains that have tremendous buying power and impose very slim margins on producers. Add to that the propensity of these buyers to import food from all over the world (50% of organic food sold in the UK is imported) creating intense competition and you end up with an industry that is very tough to survive in. The industry attractiveness is poor. If you were planning on entering this sector you would have to balance the two very carefully.

It is therefore important to separate our analysis of your business idea into a market analysis, looking at the needs of your customers and an industry analysis, looking at the nature of the competitive environment you will have to work in.

1.3 Analysing the market

The market analysis is the more complex to carry out, but it is arguably the more important. Without customers you will get absolutely nowhere. Don't worry though, the following steps will take you through the whole process. What we are going to do is ask a series of questions about your idea. On the first read through, you can quickly think about the answers but you will then need to re-visit each one carefully and write down a considered answer. In many cases you will need to do some research to find the answers. This is all very worth while as what you are in fact doing is starting to understand your business.

The first set of questions addresses the market need for your product. This is a detailed look at who your customers are and what they want from you:

What problem are you going to solve?

Whatever business you are going to start, it will rely on your customers giving you their money in return for some product or service you are going to provide for them. To make them do this, you are going to have to satisfy a need for them and one of the best ways of understanding this need is by describing the problem you are going to solve for them.

This works for any type of product. Even when you buy a sandwich from a petrol station, it is because you have a problem that you are hungry, you didn't bring anything from home and you don't have

time to stop for a proper meal. The garage solves your problem and you hand over some of your hard earned cash.

It also works for services – you might use an accountant to do your tax return because it solves the problem of not knowing exactly how to fill the forms in and where to put that amount of pension contribution you think you should get some rebate for. Even fashion items solve the problem of needing to conform, stand out or look smart, depending on the trend.

Now think about your business idea: What problem do you solve for your customer? The first thing you need to do is describe who the customer is. If there is more than one type of customer, are you solving the same problem for all of them or slightly different problems for each one? For each of your customers, write down the problem you solve for them.

Now for each of the problems that you are solving, you will need to find out how big a problem it is for your customer. This is an important qualifier because if the answer is ‘well it’s a bit of a nuisance, but we can cope’, they are much less likely to part with their money than if they say ‘it’s a nightmare, we need to solve it to keep going’.

In some cases you will be able to get away with using some empathy to judge how serious the problem is, but be very careful that you are not using too much wishful thinking or letting your enthusiasm for your idea cloud your judgement. The only sure way is to talk to the potential customers and find out first hand what they think. This is not as difficult as it sounds. You are going to have to talk to customers sooner or later so why not now, before you invest too much in the idea.

The last part of this question involves your solution to the problem. Does your intended offering solve the problem entirely or do you only offer part of the solution. Obviously the first answer is better,

but if it is the latter, think very carefully about how you could extend your idea to become the whole solution to the problem. If your customers are going to have to buy part of the solution from you and another part from someone else, then the problem needs to be severe to lead them to go to so much trouble. It's going to be much easier to sell to them if you can offer them everything they need. You may even need to think about licensing the rest of the solution from the other supplier.

Talking to customers

The prospect of talking to potential customers can be a little scary, especially if you are coming from a technical or academic background. There is however, no alternative. Talking to people is by far the best way of understanding their exact needs and therefore, how you can develop your solution to fit them exactly.

In most cases, people respond very well to being asked for advice, put simply it flatters them a little that you find their opinions valuable. In most cases they will be extremely helpful and will often ask to be kept informed with your progress, even offer to try out early versions of your product. Remember that this is a win-win situation, they have a problem that you could potentially solve for them and they are a valuable source of information for you. Keep these people close to you.

In many areas there will be individuals who act as key opinion leaders for the sector. These are the guys who regularly write for the trade association papers, who run special interest groups and who are well known in their industry. By approaching these individuals for advice you are likely to do even better as they will know what else is going on and be able to suggest other people to talk to. If you can keep in touch with these people and later get them to try your product, they are likely to write about it and tell people about

it. This can create a great boost to your early marketing efforts.

Depending on your business it may be worth starting an advisory group or a user group. In return for a buffet lunch, you can fill a room with potential customers all talking about your product and how they would use it. The feedback you can gather from something like this is incredibly valuable and at the same time you show your customers that you care about their needs and wants.

One of the things that people worry about when talking about their ideas is the risk that their idea will be stolen. We will talk in the next chapter about legally protecting your ideas, but at some stage you are going to have to take the plunge and get out there. In most cases this fear is largely unfounded as your customers are not going to be in a position to copy your ideas, mainly because they do not have your particular expertise or the desire to compete with you. You should still however, consider protecting your discussions with a non-disclosure agreement, especially where new technology is involved, more on this in the next chapter.

Why will they buy from you?

Hopefully by now we understand the nature of the problem which your idea is going to solve for your customers. This next question looks a little deeper into the motivation of your customers to not only buy a solution, but more importantly buy a solution from you. The way to answer this question is to look at the competition.

Please don't immediately answer that your idea is unique and that there is no competition, because you are wrong. There is always competition. You may have a totally unique solution, but money will not magically appear in your customers' pockets to spend with you. There will always be something that they can no longer afford

if they spend their money with you. There will often be alternative solutions that you are not considering. For example, there may be only one train service between two cities, but the rail company competes with the airlines and buses for the same business. The trick is to make your offering more attractive to them than the alternative.

The first thing to do is to make a list of all the competing solutions to their problem that you can find. Put yourself in your customer's position and imagine all the ways of solving it and all the things you could do, use or buy to help (including the 'do nothing' option). Now for each one, find out as much as you possibly can about them. These days the internet is an invaluable source of information, not just about other people's exact product specifications, but also the strength of the supplier company, what the users have to say about it and what they would like to change. Start a file on each of your competitors, print out copies of their brochures, price lists and take careful note of promotions they are running. Start to think how you are going to compare next to them, how you are going to win business away from them and how you think they might respond.

If you get to this point and you really can't find anything on the market that offers something similar to you, it is worth asking yourself why. Is there really a problem out there to be solved? Find out if others have tried to solve the problem in the past and failed. If so, what went wrong, why did they not succeed and how are you going to have a different result?

Now describe exactly how your offering is better than the rest. Here we are looking for your Unique Selling Points (USPs). Go back to the customers you have spoken to and check that your USPs are valid. This may be an iterative process while you fine tune your ideas to exactly match the market needs.

There is a second part to the question of whether customers will buy from you. Their buying decision may be based as much on their feelings about your company as on their feelings about your product. Here we are talking about trust. You may look good on paper but they will also need to trust you before giving you their money. This can be very difficult for a new business without a track record or reputation. You are going to have to make up for this with the personal touch. We will talk about this more in the later chapter on Marketing but for now it is about developing a complete understanding of your customers' problem and your absolute dedication to solving it for them. It will depend on the relationship you build up through actually talking to them and convincing them that you are on their side and that you understand their needs. Once you have one satisfied customer they can be used to convince the next and so on.

How will the customer's behaviour change?

This is a very important question and one which needs to be explained carefully because changing customer's behaviour is normally a bad thing.

What we are looking for here is an understanding of the impact that your solution is going to have on your customer. The wider the impact, the more changes are required to accommodate it, the more resistance there will be to accept it. Put simply – no one likes change. The more changes your offering requires on the part of the customers, the bigger the benefits have to be to outweigh them.

Take the example of television. When colour television was introduced, the designers were very careful to introduce a technology that did not disrupt existing customers with black and white receivers and provided a smooth transition as people bought into the new technology. They offered a system for new colour receivers with virtually no change in customer behaviour at all. The new receivers took up the same space in the home, used the same power

supply, the same aerial and gave access to the same programming. The customers adopted the new technology without much fuss.

Satellite television was a different proposition, to benefit from this innovation you needed an extra box, more controls, a different (and ugly) aerial, you even had to pay for the channels in a different way. Initially take up was slow and even now the industry has to offer more and more channels and services to tempt new customers. The benefits have to be large to overcome the disruption and costs. How difficult do you think it will be to convince us all to buy high definition television services and what benefits will they be able to offer to convince us?

So, what changes in behaviour will your customers need to make in order to make use of your products and services? Write them all down and ask yourself: Do the benefits make all this worthwhile?

It may be that you need to bring them over gradually, perhaps offer an intermediate step first, one that provides some of the benefits but without some of the disruption. Then when they are happy with that, offer them the next step and so on. This approach is well known in the computer software sector where features are released gradually so as not to alienate existing users whilst attracting new ones. In fact completely new packages are often released as cut down versions at very low or no cost. Once a customer base has been established and users have adopted the new methods, the Pro edition is released and charged for at the going market rates.

Now compare the list of benefits you made earlier to the list of behaviour changes. Do they occur in the same place? For example if your product is sold to an organisation, do the benefits accrue to the same individual or department as will need to make the necessary changes to accommodate it? If not, you could be in big trouble. To find out we need to look at all the stakeholders in the buying decision.

A stakeholder is anyone that is affected by the purchase and use of your product. Let's take the example of a new medical device that will allow a family doctor's practice to carry out a test normally carried out in a hospital. The immediate stakeholders are going to be the family doctor, and the patients. At first glance this can only be a good idea, the patient doesn't need to visit the hospital to get the test done and the doctor is able to provide better care for the patient. But if we look at the changes in behaviour a little more carefully we find that the doctor is actually taking on quite a lot more responsibility. Rather than simply referring the patient to a specialist, they will be making the diagnosis and potentially treatment decisions themselves. Will the benefits of providing better patient care outweigh this increased responsibility?

Perhaps using the device also requires some attention from the practice nurse, will they need training, and do they have time? Is there an additional administrative burden on the practice? What do the local hospital feel about such an innovation, will they offer advice about the results, will they still want to carry out their own tests if the results are positive? What do the healthcare authorities think, will they divert funding from the hospital to the family practice to pay for the equipment or its running costs? Before we know where we are, we now have a list of stakeholders that includes the patient, the family doctor, the nurse, the administrator, the healthcare authority, the hospital consultant, the hospital administrators, patient support groups, charities, efficacy bodies even the insurance companies. Imagine them all sitting round a table discussing whether to buy the device for the local practice. Who will be for it and who will be against it, and why?

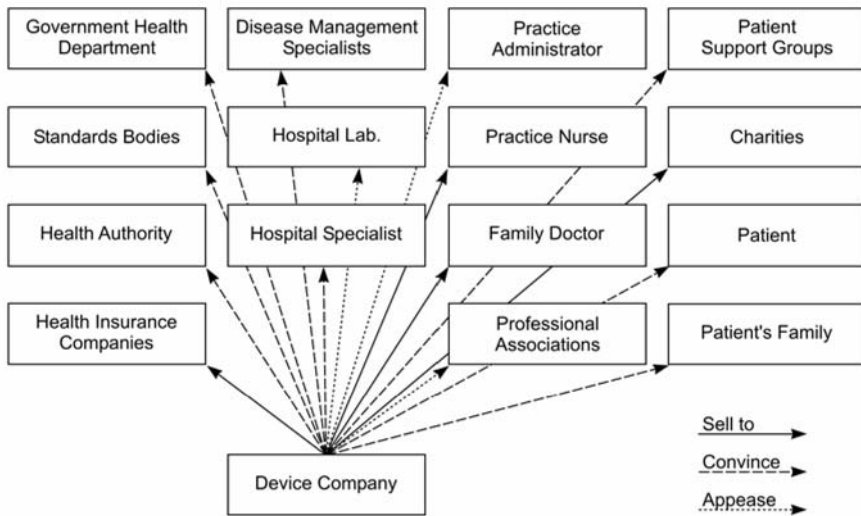


Fig. 1.1. Stakeholder analysis

This is a complex example, but it does illustrate the point that very often a buying decision is a complex matter, so how can you analyse it all properly? First draw out a diagram like the one below that shows every link in the chain between the stakeholders. For each one, write down what you think their reaction to the purchase will be and why and try to think how you could convince them that it is a good thing for them that the purchase takes place. Are any of them likely to have a veto or raise an argument that will stop the purchase? If so their concerns become your highest priority. It may be that in order to satisfy everybody you have to change or expand your product. This will be very worthwhile if you can achieve a situation where as many stakeholders as possible are supportive of the buying decision.

As always it is best to test your assumptions on real people. In the example above, it would be very worthwhile visiting a number of hospital specialists, healthcare authorities and so on. Remember you can never understand too much about the problem you are

trying to solve. Collecting the views of all your stakeholders is a very important part of this process.

In this example it should be possible to design the device in such a way that all the stakeholders are happy. This is not always the case however. Let's look at an example where the benefits do not align with the costs. Imagine a service where buses collect air pollution data and that this data was reported live at bus stops and on the bus company website. This would allow passengers to check on the pollution levels in town before deciding to make their journey. At first glance this seems like a good idea, the passengers are provided with health information and the bus company improve the service they offer their customers. But wait, in providing this information the bus company is providing information that will deter passengers from using their service. How likely are they going to be to buy and install this technology?

Quick recap

At this point it is worth taking stock and asking if you still believe in the idea. To recap, you need to be convinced that the problem you are going to solve for your customers is real and serious, serious enough for them to spend money on your solution. You need to believe that they will buy from you and that your products and services will bring them benefit and value for money. Finally you need to be sure that the disruption your solution will cause will be well received by all the stakeholders that will be affected.

Your answers to the last three questions are vitally important to your chances of success. If you have concerns then they need to be addressed before we move on.

The next set of questions address the market potential for your idea, essentially we are going to start to get into the numbers. How big a market do you have and how much money can you make from them.

What sort of business do you want?

This may seem an odd question but the type of business you want to develop will determine the importance of the following few questions.

Businesses range from one-man-bands to global corporations, all are valid and all can satisfy their owners' demands. The question really comes down to what you want the business to do for you personally.

Do you want what is known as a life-style business that will provide you with a good level of income until you retire? Typical examples of these businesses are small consultancies or service providers such as website designers, management consultants, photographers, technical consultants and so on. These businesses are capable of providing their owners with very comfortable incomes, good job satisfaction and flexibility but no equity. In other words the owners are the business and there is normally no potential to sell the business on or raise finance from investors. If finance is required for any form of expansion it is normally acquired against personal guarantees from the owner (who re-mortgages the family home for example).

Do you want a business that you can build over a long period then sell on when you retire or hand over to your children? Examples of these businesses include shops, specialist manufacturing or service companies and specialist suppliers or distributors. They are typically larger than the life-style businesses and they tend to have an equity value that can be sold or traded. This type of business rarely attracts interest from investors, but it does tend to develop assets against which finance can be secured for expansion. Typically however growth is organic, meaning it is provided by investing profits rather than incurring debts.

Do you want a business that you can build rapidly for 5 years or so and then sell for a significant return? This is a very different

proposition and examples can be found in the high technology, biomedical and other high growth areas of the economy. These businesses require high growth markets to give them the space to grow and tend to require large capital investments to make them work. They also require something novel and exciting that can be protected rigorously.

The importance of the next few questions grows dramatically depending on your choice of business: For the life-style business you will need to know that there are sufficient customers within your range to keep you busy. Whereas a larger, long term business may need to know that there are sufficient customers regionally or potentially nationwide and will also need to examine export potential. The high growth company will need to know the global opportunity, if not for the immediate ambitions but certainly to add value for the sale by pointing to the global opportunities for the technology.

Where are your customers and how many are there?

So far we understand your aspirations for the business, we have a list of your potential customer types and we know what you are going to have to do to satisfy their demand for a solution to their problem. Now we need to know how many of them there are and where they are. At this stage we are looking for the total potential market size. We will look at how to estimate your potential share of the market later on.

Depending on your business type, you will need to find out these numbers for the town, region, country, trading block or even globally. Obviously if your idea is for a local service, knowing the national demand is not going to be very helpful, although it might give you confidence that there is scope for expansion. If you are going to develop a product with potential global demand, you will need to know the market sizes in each of the major territories that could be of interest to you and your investors.

For each of the customer groups you have identified, find out how many potential customers there are within your range. If we use the earlier medical device example, we will need to know how many family doctors' surgeries there are in the country. We would also need to know how many hospital departments we will be affecting and how many health authorities there are.

Most of the information can be gleaned from the internet. Information on the general public can be found on local government websites. In the UK, the Office of National Statistics (ONS) website has a wealth of demographic and socio-economic data. Various other government publications and websites contain useful information, especially the Department of Trade and Industry and in the case of our medical example, the Department of Health and National Health Services websites. Trade associations often publish detailed statistics and reports on the state of their sectors. Professional institutions such as the Institute of Marketing and Institute of Directors have excellent libraries that contain up to date reports and market data.

Help can also be sought from local and regional government services such as regional development agencies that offer advice, local market intelligence and maintain lists of services and specialists. In many cases regional government also provide grants to assist start-up companies to get established. Grants are often available to pay for market research reports and studies.

This can be quite a laborious process but it is very worthwhile. Don't forget, we are building the foundations of your business, there are no short cuts.

How is the market size changing?

When you are looking for market size data, try to get as much information about how the market has changed over the last 5 years or so and if possible collect predictions about how it will change in

the future. This market dynamic information will be a very useful indicator as to the health of the market and possibly dictate the interest of any investors you want to work with.

The reason why market dynamics is so important to the future of your business is best indicated with a set of graphs. In the following figugraph 1, the shaded area represents the amount of revenue you want to get from your market. It starts small and grows with time as you expand your business. In graph 2, we overlap this area with the total available market, assuming that the overall size of the market stays the same. In this case, the share of the market available to all your competition drops with time as you steal market share from them. This is going to be tough and you are very likely to invoke some form of defensive action from the existing sellers.

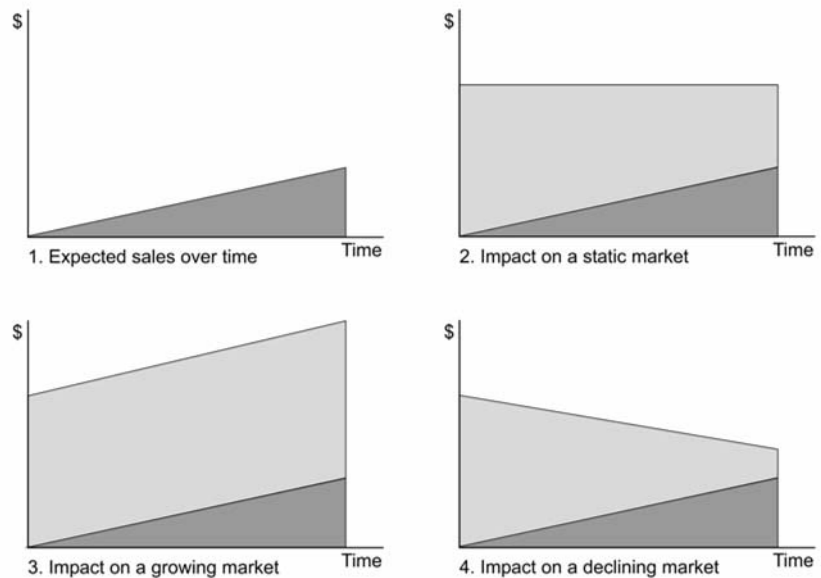


Fig. 1.2. Effects of market performance

In graph 3, the market is growing rapidly and so there is space for you to achieve your ambitions, at the same time allowing the

existing sellers to maintain or even improve their market shares. This is the best scenario to be in and one which venture capital investors in particular look for when making an investment.

For completeness, graph 4 shows the situation in a declining market. Here the existing sellers are squeezed even further and in the long turn your business can only decline too. If the market data you collect suggests a declining market, the only sensible thing to do is look for a different market – there is no future in this one. The only exceptions to this rule would be if the market is still very large and you can identify a strong demand, or healthy niche for your product. Be extremely careful though!

How valid is your data?

One of the risks of collecting market data from publications, especially ones you find on the internet, is knowing exactly who generated it, for what purpose and whether it can be trusted.

One of the first things to look at is when the data was published. Generally you should be very suspicious of any prediction data that is more than a few years old and certainly anything more than 5 years old should be treated with a lot of caution.

The authors of the report or data are also a key indicator as to their validity. You can generally trust reports from any of the big accountancy firms, government departments and large consultancy companies.

Treat un-referenced quotes on peoples' websites with a great deal of caution and where possible if a statistic is referenced, track down the original publication to make sure that the numbers are in the right context.

What trends are likely to affect your business?

The world is not a static place and many of the changing trends that exist may affect your business, some of them positively.

One of the biggest economic changes affecting us over the next few years will be the aging population. The proportion of the population that are retired is the largest it has ever been and the trend is set to increase dramatically over the next decade. If your business sells services or products related to this group then your market size is going to expand dramatically. This change will have implications for healthcare, entertainment, housing and many other sectors. How will it affect your business? Collect data from the Office of National Statistics to help predict the scale of the change to the market data you have collected already.

There are other trends such as climate change which will have an effect on many business sectors. Milder winters and dryer summers will affect energy use, sports and recreation, agriculture and retail demand.

Technological developments also act as trends, the proliferation of mobile data communications, universal broadband internet access, and the reduced size and power requirements of electronic devices are trends that may well have an effect on your business.

Regulatory changes have dramatic effects on markets. The introduction of requirements for waste management and sustainability has driven a whole new industry in mobile telephone recycling. What is the regulatory environment like for your sector and how is it likely to change in the future?

What other sectors could be exploited?

This question points to whether there is long term growth potential for your business that could be achieved by taking your idea and applying it to different commercial sectors. If we take our medical

device example one more time, are there other tests that could be developed once the medical professionals have gained confidence in our technology, or are there domestic products that could be sold directly to patients to help them manage their own condition?

A good way to think about this question is to strip your idea down to its constituent parts: What are the fundamental building blocks of what you offer and what else could they be used for? Make a list of the other problems you could solve for both the same and new customers. If any of them sound particularly exciting it may be worth going back a few steps to find out more about these opportunities to make sure that you are focussing on the best initial opportunity. We will look at segmenting markets and planning product roll-out later in the book.

Obviously this question is very important for high growth companies as good future market expansion potential will help to secure investment. It should also add confidence and breadth to even the smallest businesses to know that there are other opportunities that could be exploited in the future.

Do you have a market?

Let's take stock again. In order to proceed you now need to be convinced that there are enough potential customers within your reach to achieve your ambitions, that the market is growing sufficiently to allow you to grow and provide future stability and that any trends that you have identified will support the market and not threaten your hard work. We also know what other market sectors could be exploited in the future to support the growth the business. If the answers to date are positive, is the case then that is very good news. It is now time to take a look at the Industry you will be working in.

1.4 Analysing the industry

Industries consist of sellers and what we need to look at next is the selling environment. This includes all the aspects of doing business that affect your ability to deliver your product or service to your customers. Over thirty years ago, Michael Porter identified five forces that affect the profitability of an industry and the basic principles still hold true in today's economy. The five forces are:

- Ease of Entry
- Supplier Power
- Buyer Power
- Threat of substitutes
- Competitive rivalry

How easy will it be to enter the market?

This is a complex question and one that breaks down to a number of elements. It has to do with the conservativeness of the market and whether brand loyalty is strong. It has to do with the position of the existing sellers and if there is a dominant monopoly in place. It has to do with the regulatory environment of the industry, whether there are standards and accreditations to be achieved before you can offer your product and it has to do with the use of intellectual property.

Let's take each aspect one at a time. Market conservatism is something you will have to judge from your conversations with potential customers. Try to find out who they buy from currently and how long they have done so. Ask them what it would take for them to switch supplier. Hopefully the answers will have to do with quality, reliability, convenience and the superiority of your solution to their problem. If so then you are likely to have a good competitive advantage. If the answers are all to do with price, then it may be more difficult for you. As we shall see shortly, competing on price alone is very hard to achieve.

Brand loyalty can be very important in some industries. Customers have built up a level of trust with their suppliers and moving them away, especially to a new unknown brand can be very difficult. It may even be that you would stand a better chance licensing your new idea to an existing supplier instead of directly competing with them. We will look at licensing in the next chapter as part of the discussion on exploiting intellectual property.

Industries that are inhabited by a dominant monopoly are exceedingly difficult to penetrate. The monopoly is likely to strenuously resist newcomers and they will have the power to beat you on price and promotional activity to such an extent that even reaching potential customers could be difficult. Imagine how hard it would be to launch a completely new supermarket chain at the moment.

Most industries are regulated in some way. The vast majority of products require safety and conformity certification and liability insurances. Many services are also regulated with the service provider being required to belong to professional associations which accredit the quality and standards of the service. You will need to understand and conform to these requirements before you can sell your first product or service and in many cases you will be required to have some quality systems in place even during the design and development process. The International Organisation for Standardisation (ISO) is a good place to start your search of relevant standards that might apply to you.

Finally in this section you need to be sure that you are entitled to provide your product or service without infringing someone else's intellectual property rights. We will cover this in a lot more detail in the next chapter but put simply, if your product or service relies on using something for which someone else owns the copyright or patent, you will need their permission and in most cases pay them a royalty for using it within your business.

Industry sectors with high barriers to entry are not entirely bad however, because if you have a particular innovation that allows you to enter, it does at least protect you from other new entrants that might want to follow you.

What power do your suppliers have over you?

To answer this question we need to look at all the players that are involved between your taking an order from a customer and completing delivery. This could include suppliers of parts or components, delivery companies, other service providers, sub-contractors, anybody that you rely on in the process of satisfying your customer. Make a list of them all.

Now for each one, write down whether what they supply you with is unique or if you could get an equivalent. Any that are unique are a concern to your business – what would you do if they suddenly increased their prices, demanded more cash up front or told you they could not satisfy your demand? Think how you can multi-source as many of your supplies as possible. You may never need to, but it will help to keep your suppliers honest and may save the life of your business one day.

Try to get the best possible deal with your suppliers. The later you can pay your suppliers the healthier the business will be. In an ideal world you will collect payment from your customers before you have to pay your suppliers. If however, you are forced to pay suppliers first, then you may need to borrow money to tide you over. We will look at cash-flow in detail later in the book.

What power do your customers have over you?

This is closely related to the previous question but this time we are looking at who sets the terms of sale, you or your customer. In some cases, you will be able to get customers to pay at the time of order or at the point of delivery, but in many business to business

transactions you will have to invoice and hope for payment within 30 days or so. Again try to structure your terms to your best advantage.

Another aspect of this question is the extent to which your customers are sensitive to price. Obviously no one likes to pay more than necessary but for example if you were to set your prices 10% higher, what effect would that have on your customers decision to buy from you? Let's look at a quick example to see what a difference this can make.

Imagine that you make a widget for \$7 and sell it for \$10 and you sell 100 of these widgets a week. Your income is \$1,000, your costs are \$700 so you make a profit of \$300. Now let's imagine that you increase your price by 10% to \$11. It still costs you \$7 to make so now you have a choice, either you could retain your existing weekly profit but only need to sell 75 widgets (25% less) or you could still sell 100 units but now make a profit of \$400 (33% more!).

Let's take this example the other way to see how important it is not to have to compete on price. Suppose you reduce your price by 10% to \$9. Unfortunately it still costs you \$7 to make so now if you sell 100 units, you only make \$200 profit (33% less), alternatively in order to keep the profit at \$300 you are going to have to sell 150 units a week (50% more!). Incidentally, reducing your costs in making the widget also has very positive results.

One final element to this question is to find out how well informed your customers are to the alternatives and to the market as a whole. Do they continually compare different suppliers or are they content to place long standing orders with you? This will have an effect on their control over your business.

How strong is the threat of people copying your idea?

This question relates to how you are able to protect your ideas. We will cover intellectual property protection such as patenting in detail in the next chapter and that could be a large part of how you protect your competitive position. You will also need to think about how else the competition could solve the customer's problem. Put yourself in their position, how would you react to your new idea and how would you compete with it?

What is the competitive environment like within the industry?

This is a difficult question to gauge from the outside but there are some clues that you can look for. Firstly how many companies are in the sector? If the answer is lots then it is likely that they have to compete strongly with each other for business.

How fast is the industry sector growing? As we have seen already, if the sector is growing well, rivalry will be reduced as companies will be able to grow without stealing market share from the competition.

How much differentiation is there between the existing players and between their plans and yours? The higher the differentiation the more likely it is that everybody is targeting slightly different niches and that competition will be on specification, performance and quality rather than price.

How easy is it for customers to switch suppliers? The easier it is for customers to change, the more rivalry there will be between the suppliers.

Another indicator of rivalry is how much, if any, collaborative work goes on between the different companies in the sector. Do they collaborate in the setting of standards for the industry, is there a vibrant trade association that shares best practice and are there any collaborative research and development programmes that are

extending the technology used in the sector? If so the rivalry is probably relatively low and if you are entering the sector with a new advance, you could find that there are license opportunities, even investment interest from the larger players, in addition to direct sales within the market.

So what do you think of the industry you are going to have to work in? Will it let you compete on the basis of the brilliance and novelty of your idea or is it going to be battle to survive, driven entirely by price? Your response here is just as important as the earlier analysis of the market need for your product. If the answers are worrying, it is very worth while looking for alternative applications of your idea in industries that are likely to be more receptive. You can always come back for this one later when you have more strength.

Nearly there!

Up to this point in the industry analysis we have concentrated on how you are going to be able to enter the sector. Before we finish, it is worth looking at how, once in, you can sustain and grow your position. To do this we need to look at some elements that will determine how successful you are likely to be in the industry in the long term.

How are you going to stay ahead?

Part of the answer to this question is in how you protect your ideas. We have mentioned this already, but it also relates to what your approach to continued research and development is going to be. Are you a one hit wonder or do you have a pipeline of new products or services that you can roll out?

Do you have access to superior processes that will allow you to compete? These could be management processes, manufacturing processes or even secret recipes. It could be your staff retention methods; you could attract and keep the best people in the industry

by offering the very best working environment. You could go the extra mile in providing excellent customer care.

What is likely to slow you down?

At this point we need to get a little critical and a little negative, we need to think of things that would stop us from progressing quite as well and quickly as we would like. There are many possibilities, here a few to get you thinking along the right lines.

- Lack of adequately skilled staff – if your business is technical or relies on skilled workers, are you going to be able to find and retain them and how long will they take to train? This will be particularly important in technology companies and university spin-outs where the skill sets may be limited to a handful of individuals nationally.
- Long customer decision cycles – never underestimate the time that some customers can take to make a buying decision, no matter how compelling the proposition. This will be particularly true if your customer is a public sector body or a large organisation with layers of bureaucracy. Thinking back to the stakeholder analysis we discussed for the medical device, how long is it likely to take to get that group to go ahead?
- Regulatory approvals – we mentioned the need for various accreditations in many market sectors, some of which can take several months to be achieved. If your product requires a CE marking, the laboratory tests could take some time to arrange and pass. If you need to be an ISO9000 approved company this will also take several months to put into place and be accepted. Remember also that as you expand to enter overseas markets, local standards and accreditations may be necessary and this will inevitably take time to secure as well as use up valuable resources.

Write a list of all the growth inhibitors you can imagine for your business. Each one of these represents a risk to your future growth and survival. Describe what steps you can take to mitigate these risks.

1.5 So, do you have a business?

Hopefully you are now even more enthusiastic about your ideas than you were when you started this chapter. If the answers to the questions have been positive, then you have every right to be. If however, the answers have shown up some flaws then you must address them. What we have been looking at are the foundations of your business, if they are not strong, it will take more than determination and hard work to make the business successful.

2 How can you protect your ideas?

Having established that there is a real market need for your product, we now need to look at how you can protect it from potential competition. The topic of intellectual property rights is a specialist area of expertise. As we will see, you would be well advised to seek the services of professionals. However it is important for you to understand the options open to you and the processes involved in formally protecting your ideas.

There are some very good reasons to investigate the intellectual property rights (IPR) surrounding your ideas. One of the main reasons for doing this, in addition to potentially protecting your own rights, is to make sure that you are not going to infringe someone else's. In other words, although you think your idea is new it may not be. You need to ensure that six months down the line you don't suddenly receive legal representation from the owner of a patent or trademark demanding that you stop trading, pay them royalties or face court action.

If your business plans involve raising finance from investors, formal protection of your ideas and technology will be very important. Investors like to see that the technology they are investing in is protected. A patent or registered right is also a tradable asset, meaning that there is potential to sell or grant licenses to it in order to generate revenue.

2.1 Loose talk costs lives!

Before we get into the details of intellectual property rights, it is worth spending a bit of time looking at the area of disclosure. Your business idea has significant value and obviously you do not want anybody to steal it or spoil its potential. It stands to reason therefore that you should be careful who you tell and what you tell them. It may be possible to apply for a patent on your idea, but this will be rejected if you have previously disclosed the idea in public. Your business idea could be dead before you have even started!

At some point however, you are going to have to share your thoughts with potential customers, potential business partners and suppliers. So what can you do? In the early stages, the simple answer is to protect such conversations with a non-disclosure or confidentiality agreement (usually abbreviated to NDA). This is a simple legal document, normally only one page in length, which binds the other party to keep your discussions with them secret. Model non-disclosure agreements are available on the internet, alternatively a lawyer should be able to draft you a document that you can use for a reasonable fee.

Do not be afraid to ask people to sign an NDA before your discussions with them. In many cases they will be expecting it, so having one ready it will show your level of seriousness and professionalism. There are a few exceptions to this rule; patent agents and corporate lawyers will not generally sign such agreements as they are bound by their professional code of ethics to maintain confidentiality with their clients.

2.2 Types of intellectual property

Intellectual property rights are divided into registered and non-registered rights. Registered rights are those that you need to apply for, un-registered right become yours automatically.

Registered rights include:

- Patents
- Industrial Designs
- Registered Trademarks

All of these require you to make an application that is scrutinised to ensure that it is novel and practical before being granted. In all cases there are fees to be paid both at the application stage and throughout the life of the protection.

Un-registered rights include:

- Copyright
- Common Law Trademarks
- Unregistered Design Rights
- Trade Secrets

Trade secrets are included in the list because this strategy is sometimes used to protect processes or methods, but strictly speaking is not a right. One of the most famous examples of a trade secret is the recipe for Coca-Cola. If the recipe was made public, the company could probably sue the person that leaked it, but only if they broke their terms of employment or a confidentiality agreement. The company could not however, stop other people from then making and selling drinks using the recipe, which would then be in the public domain.

There are also some registered quasi-rights such as internet domain names. Anyone can register an internet domain name if it is available, but that does not give them the right to trade using that name if it infringes an existing trademark. The rights of domain name registrants are being eroded since the practice of cyber-squatting, where individuals would register domain names of large companies and then proceed to try to sell them to the company for large fees. The courts are now starting to legislate in favor of companies with established and registered brands and forcing the domain registrants to give them up.

As the internet has become such a powerful and important marketing tool, the search for a suitable trading name for your company or product should include a search for relevant domain names. This has become so important that in reality, if you can't find a suitably representative domain name for your intended company, you should keep looking for a new company name.

In general, un-registered rights are much cheaper to manage than registered rights but they are much more difficult to enforce and cannot be treated as an asset.

2.3 Patents

In general, commercial law has been established over the centuries to allow free market competition and restrict monopolistic practices that disadvantage consumers and the economy. Patent law is an exception to this principle. Patent law has been developed in recognition of the fact that technological developments are a good thing for an economy but are very expensive to develop and risky to introduce. Patents grant inventors a limited monopoly period in which to exploit their invention in return for a public disclosure of how the technology works. In this way the law encourages the development and improvement of new technologies whilst at the same time encouraging dissemination of knowledge for the public good.

Novelty and confidentiality

In order for a patent to be granted, the invention must be novel. It stands to reason that if details of the invention have already been disclosed and are therefore already in the public domain, there is no need for the state to grant a monopoly to the inventor. It is therefore very important for you to keep your ideas secret and protect your conversations with NDAs before you file your patent application.

Some countries allow a grace period between public disclosure by the inventor and a patent filing date. Currently the USA allows a grace period of twelve months and Japan allows six months. There is also a twelve month grace period for filing international patents following a filing in your home country. We will look at this process in more detail later.

Disclosure is a major issue for academic researchers who develop new technologies. Academic practice is to publish research results and technological developments as they are achieved. This can cause severe problems when it comes to protecting and exploiting those same results. There have been many examples of patent applications being rejected because the technology has already been published in journals or discussed at conferences. If you are in this situation, talk to a patent agent early in the process and discuss your publication needs. Initially they may advise you not to publish at all, but once they understand the realities of your position, they will be able to plan and achieve patent filings to suit both your academic and commercial agenda.

Examples of public disclosure that can affect your chances of obtaining a patent include:

- Conference presentations.
- Conference proceedings and journal papers.
- Trade fairs.
- Open days, including degree shows.
- Trade press articles.
- Oral disclosure, not covered by an NDA.
- TV or radio interviews.
- Internet websites, blogs and chat-room conversations.

The public domain knows no national boundaries. If the invention is known anywhere in the world, then it is considered to be in the public domain. Interestingly, this was not always the case, until as late as 1977 the UK patent system allowed imported inventions to be protected. This stemmed from the need to provide incentives for

explorers to find and bring back technology from the rest of the world. The rationale was very similar to the need to encourage home grown innovation by providing a commercial incentive.

How far does a patent protect me?

The law surrounding IPR is entirely civil rather than criminal. This means that if you are granted a patent and someone infringes it, the responsibility is yours to take action. You cannot call the police and you cannot expect anyone else to pay for the legal proceedings.

As the owner of a piece of IPR you have the right to protect it by taking the infringer to court. You might do this to stop their activity or demand a royalty fee from them. The process will however, be at your own cost. As a small company this can be hard to bear, so many companies take out insurance against the cost of legal fees spent defending their patents.

It is important to understand the scope of protection that a patent gives you. If you are granted a UK patent, you have the exclusive right to control the making, selling and using of your invention within the UK, for the duration of the patent's life. It does not stop someone in France copying your idea, making products and selling them there, or even exporting them to anywhere else in the world except the UK. Most patents are therefore filed in multiple countries to provide international protection. Fortunately international treaties and processes have been established to make it fairly straightforward, but inevitably the more territories you protect, the more expensive the process becomes.

The monopoly you have bought in filing your patent only remains while you continue to pay for it. Each year you will have to pay a renewal fee to keep the right. If you let the right lapse, by not paying the renewal fee, the monopoly is permanently ended and anyone is then free to copy, use and sell products based on the information disclosed in the patent.

What can be patented?

In most countries, patents are granted to inventions that solve a technical or industrial problem through an innovative product or process.

There are four basic criteria that must be satisfied for a patent to be granted. The rules are subtly different from country to country but the common criteria are:

- The invention must be new or novel.
- The invention must be inventive or not obvious.
- The invention must be industrially applicable, i.e. capable of being constructed or operated.
- The invention must not be in one of a number of excluded areas.

As we have already seen, a patent is a trade between the state and the inventor. In return for publishing how the invention works, the state is prepared to grant a monopoly. The invention must therefore not form part of the current public knowledge or 'state of the art'. The state of the art is defined as everything made available to the public by written or oral disclosure or use. When you apply for a patent one of the first actions the patent office will undertake is a search to ensure that the invention is indeed novel. They will examine the 'prior art' (the state of the art prior to your invention) to ensure that each aspect of your invention is new.

The invention is considered novel unless the prior-art discloses all the essential elements of the idea. This makes it possible to have patents granted that describe improvements to existing inventions where all but a few of the essential features are already known. A good example of this is the drinks can ring-pull. The original design, and patent, described a tear off portion on the top of the can. The currently used design, which leaves the torn flap still attached to the can was an improvement on this design and was granted international patents even though the concept and many of

the elements were similar. To give you an idea of the potential scope of improvements, there have been approximately 30,000 patents granted for types of hinges and switches.

The requirement to be inventive is a more difficult area to judge. The formal definition is that *“an invention involves an inventive step if it is not obvious to a person skilled in the art having regard to the state of the art”*.

What this means is, if an uninventive colleague or peer with experience in the same area of technology, with access to the prior art, does not immediately make the inventive step, then it is judged inventive. This is not easy to judge for yourself, it is easy to imagine that your solution is obvious. But it is often only obvious if you know the answer. How obvious can it really be if no one has thought of it before you?

There is a potential trap here that you should be very careful about. The test of obviousness is made against the publicly known state of the art. It is against this background that the application is judged. On more than one occasion, enthusiastic inventors have made presentations that in themselves did not disclose the invention but hinted at it enough to erode the gap between the published state of the art and the invention. Subsequently, the patent applications were rejected as being obvious given the earlier disclosures. If you are in the position of having to make presentations before you can file the patent, first discuss your intended presentation with a patent agent.

The requirement to be ‘capable of industrial application’ derives from your part of the bargain to publish the invention within the patent. The description you write should be detailed enough for someone competent in the area (‘skilled in the art’), to be able to use or construct the invention and for it to work. To satisfy this requirement there must be no missing links in the invention or its description.

What this means in practice is that you cannot get a patent for a bright idea alone. You need to have solved every aspect of how it works. Every year, Patent Offices, receive applications for perpetual motion machines that solve all our energy needs. Unfortunately they are yet to receive one that is industrially applicable.

In most countries, the invention must be a physical construction or an industrial process. In the USA however, business processes are eligible for patent protection. Amazon.com's one click system for purchasing goods on-line is subject to a patent in the US.

The final requirement for patent eligibility is that the invention must not be in one of a number of excluded areas.

Methods of medical treatment such as therapeutics, surgical techniques or diagnostic processes are not eligible for patenting since it is not in the interests of the public to restrict access through the creation of a monopoly. Medical equipment is patentable but not the methods of use.

Some technologies related to the defense of the realm are also restricted since it is not in the states interest to have such technology disclosed to the wider world. If you invention relates to a defense application, you should seek advice from a patent agent before proceeding.

Other exclusions include:

- Scientific discoveries, theories and mathematical methods.
- Aesthetic creations.
- Schemes, rules or methods for performing mental acts, playing games or doing business (except in the USA as mentioned above).
- Computer programs (more on this later).
- Presentation of information.
- Inventions which are anti-social in nature.

Writing and submitting a patent application

The main body of a patent application consists of two main sections, the specification and the claims.

The specification is a written description of the invention. It should include a description of the problem that the invention is designed to solve, a description of the prior art and its limitations and finally a description of the invention itself.

The specification can be as short as one page or as long as a hundred depending on the complexity of the invention and prior art. This is the part of the patent document that you should be able to pass to a skilled individual and they should be able to reproduce the invention. A good description will provide this level of detail for at least one embodiment, or example of the inventions use. The description should describe the structure, each functional interaction and the benefits and advantages of the invention over the prior art.

The specification should then describe any potential variants to the invention, either in the methods used or its potential applications.

The specification usually makes reference to drawings which illustrate the invention. Most patent offices have strict guidelines as to the format and annotation of these drawings. You must adhere to these instructions to get your patent application accepted.

The claims section of the patent is the most important. In a series of short, numbered statements, the claims define exactly what monopoly is being sought. The writing of claims is a skilled job as the wording needs to be very precise in order to provide the best protection.

A series of claims is used in order to separate novel components that could be made or sold separately. Claims then build on each

other to protect different variations or embodiments of the invention.

Once the application is written, it is submitted to the national patent office. The date it is filed is called the priority date and the timing of all the subsequent events refer back to this date.

The patent office then conducts a search for earlier patents and documents that disclose the same or similar ideas to those contained in your application. The results of this search will be sent to you for comment.

The patent office then conducts an examination to determine whether the idea involves a true inventive step from the previous state of the art. The result of this examination will be a report that will be sent to you.

It is very common for the examiner to uncover several documents and raise a number of objections to your application, so don't get too disheartened. You then have the opportunity to argue your case with the examiner's objections. This may involve you refining your specification and claims to clarify the distinction between the prior art and your invention. This process may involve several rounds of arguments and amendments. If you are successful and can reach a position where the examiner is satisfied, the patent is granted.

Once granted, your monopoly rights are effectively back-dated to the original priority date.

Patenting computer software

Strictly speaking, computer software is not eligible for patent protection in most countries, including those in Europe. Notably though, software is patentable in the USA. So how can you get patent protection for software based inventions in Europe?

In many cases, it is possible to achieve patent protection by describing an invention that relies partly on computing processes within it. To do this you need to break down your invention into the three components of hardware including any interfaces, data and finally software. The software should be described in terms of its action on the data and control of the hardware. If you can describe a beneficial technical effect, there is good chance of being granted European patents.

Examining each component in turn: Is the computer hardware used in the invention entirely conventional or are there novel and inventive aspects to the hardware that are necessary to carry out the operation? If so then it may be possible to file a patent to protect the novel hardware design.

Next describe the software system in terms of the structure and functionality of the process it carries out. This will be particularly relevant if the system has some form of input data, processing operation and then output or control data. The patent specification can then describe a machine that performs this functionality, the preferred embodiment of which is a software method. Examples of successfully patented software systems include:

- Computer based monitoring or diagnostic systems.
- Image processing and surveillance systems.
- Natural language processing such as speech recognition and voice control systems.

In all cases, make sure you describe the technical effect and benefits achieved by using your computer based solution, compared to conventional means. These could be higher speed, more economic use of memory, more efficient search strategies or better user interfaces.

The claims for such patents start with statements about the process, described in functional terms and then describe the use of software to achieve it.

Filing international patents

As previously mentioned a patent is a bargain between the inventor and the state and therefore can only provide protection in that state. Most countries have their own national patent offices. One method of obtaining protection in multiple countries would therefore be to directly apply to each office for which you need protection. Each application would have to satisfy the local regulations and be presented in the local language. Each office would then carry out its own examination and respond directly. If you take this route, you could find all your time is taken up responding and arguing with a large number of different offices. Fortunately international systems have been put into place to make the process more straight forward.

The European Patent Office (EPO) provides a means of simplifying the process of obtaining patents in up to 36 countries. The OPE is not a part of the European Union and so also provides access to neighbouring countries including Switzerland, Turkey and many of the eastern European states.

When you apply for a patent through the EPO, you file a single application and designate the countries in which you require protection. The office then carries out a single search and examination procedure. If successful, the patent is then registered in each of the countries nominated. In most cases you will need to have the specification translated at this point.

To streamline international patent applications across the world, the Patent Co-Operation Treaty (PCT) can be used. Ultimately this is more expensive than individual country applications, but in many cases the PCT provides a way of deferring costs and risks for over two years.

Under the PCT procedure, you first file a national patent in your home country. Within twelve months you then file a single international application with your national office. The PCT authorities then carry out a central novelty search and provide a report

in about two months. Within nineteen months of the original national filing date, you then request the PCT authorities to examine the application in more detail. The resulting report is purely indicative and so not binding, but it does provide a very good indication as to the likely success of the subsequent national filings.

The PCT application then needs to be converted into national applications within thirty months of the original national application. At this point the normal local filing costs and translations are required but you have some level of confidence that it is likely to be worthwhile. It also provides a good period of time between the initial filing and the commitment of large costs. Time you can use to examine the market potential and importance of each of the countries you are interested in.

The PCT process can be used to file patents in over 130 countries including all the key markets of the world. Interestingly the EPO is a member of the PCT so you could, for example make your initial application in the UK then use the PCT route to gain protection in the USA, Japan, and any number of European countries through the EPO.

The priority date from your first national filing is used to judge the novelty in each of the subsequent local examinations so you are able to disclose more of your invention once you have made your first filing.

How long and how much?

I have hinted so far that applying for patents, especially internationally, can be a slow and expensive business, but how long and how much are we talking about?

Figure 2.1 shows the complete patent process as a timeline. From initial filing or priority date, the granted patents can take between

six months and three years to be achieved depending on the complexity of the case and the number of objections raised by the examiner. The process for granting international patents is even longer due to the delays build into the PCT system.

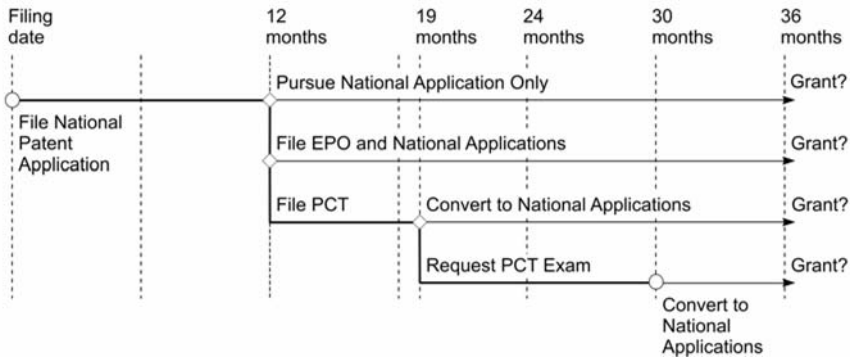


Fig. 2.1. International patent filing process

The cost of filing patents involves some fixed fees that are payable to the patent offices at various stages of the process and patent agent fees, if you choose to use their services. The following approximate costs assume that you have an invention of moderate complexity requiring a specification of twenty pages with 5 sheets of drawings. They also assume you use a patent agent to draft the application and prosecute your patent application.

To apply for a single UK patent:

Table 2.1. UK patent costs

Event	Cost (\$)
Drafting and filing	8,750
Search report	175 – 1,750
Examination request	500
Prosecution	750 – 7000
Grant	260
Total	10,000 – 17,500

To make a subsequent PCT application:

Table 2.2. PCT patent costs

Event	Cost (\$)
PCT filing	7,850
Search report	300 – 3,000
PCT Examination request	2,600
Total	10,000 – 13,000

To apply for patents through the European Patent Office (based on 7 countries):

Table 2.3. European patent office costs

Event	Cost (\$)
EPO filing	7,000
Search report	175 – 1,750
Examination request	2,200
Prosecution	875 – 7,000
Grant	2,600
National registrations	350 – 5,250 each
Total	~31,500 for 7 countries

To apply for national patents through the PCT route each country will cost between \$8,750 and \$17,500 when you start the national filing process. Some of this is spent on services to translate your application into the local language.

Unfortunately, even once the patents are granted, the costs do not stop there. Each separate country requires annual renewal fees to be paid. In most cases these start low and increase towards the end of the patent's life. Renewal fees range from \$175 to \$1,400 per year initially growing to \$875 to \$5,250 for the last year.

If you allow a patent to lapse by not paying the renewal fee when it is due, you lose your monopoly permanently. Many patent agents offer a reminder service to ensure that you do not allow valuable patents to lapse accidentally.

2.4 Registered designs

Design rights operate in a similar way to patents but are concerned with the appearance of the whole or part of a product. A design right can be used to protect the appearance of your product that derives from features such as lines, contours, shapes, colours, texture or even use of materials.

Design rights cannot be used to protect a single artistic creation but can be used to protect the shape, form or surface decoration of a product that will be produced in quantities of more than 50 units.

Unlike patents, design rights exist by default when ever you design and manufacture a product with a new look or feel. These are un-registered design rights. These rights offer limited protection though as you would have to prove that anyone producing a similar design had actually copied your design rather than arrived at the same point by coincidence. By registering your design, you are protected against imitations even if they are not the result of copying.

Registering the design of your product can be an important additional commercial protection. It can be particularly important in markets that compete on fashion such as the mobile phone market. The functionality of most of the available models is almost identical, manufacturers compete on the basis of style and easy to use form features. These are rarely patentable but could be protected through registered design rights.

The process of applying for a registered design is similar to that of applying for a patent. There is still a requirement of novelty and you still complete an application and file it, normally through the national patent office. The process is much quicker however, with most applications being processed within a matter of weeks. Granted rights typically last for twenty five years.

There is one important limitation to design rights. They cannot be applied to 'must fit' or 'must match' components. What does this mean? If your product interacts with components that could be supplied by a third party, your design rights cannot inhibit their ability to be able to fit to your product. The test case that brought about this limitation occurred in the replacement exhaust pipe sector of the automotive industry. A motor manufacturer tried to claim that the shape and fittings of their motor car's exhaust system was a design right and that they could therefore demand a royalty from the producers of replacement exhaust systems that took the same form. The court found that to allow such a restriction created too strong a monopoly for the automotive companies.

An important element of a registered design is that infringement is deemed to have occurred even if the infringing design has been derived independently without any evidence of copying.

2.5 Trade marks

A trade mark is any sign which can distinguish your goods and services from those of other traders. Marks can take the form of words, logos, pictures or a combination of these. Like design rights, trade marks can be registered or un-registered.

Trade marks are designed to protect both you and your customers. You are able to protect your brand from competitors effectively pretending to be you and trading-off the good will that you have generated with your customers. The customer is protected by the knowledge that when they buy a product with your mark on it, it will be of the quality they expect from you.

Registered trade mark protection can be extremely important for protecting your brand and image. You can register trademarks for your company name, logo, and the names and logos associated with your products and services. When a trade mark is registered, it

is usual, though not a requirement, to indicate its registered status by using the ® symbol.

In the same way that undertaking a patent search can highlight the rights of others that you might infringe, the same is true of a trade mark application. Serious damage can be done to your business if you start trading and building a reputation for your product without knowing that you are infringing someone else's trade mark. They will be within their rights to demand that you stop trading under that name or using that logo. All the time and investment you have made in building your brand will be wasted and you will have to start again.

Trade mark registrations are awarded for specific market sectors. It is therefore possible for two or more organisations to register similar or even identical trademarked names if they do not compete in the same markets. Lotus is a good example of this principle; twenty trademarks have been registered in the UK for the word Lotus. These include its use by a sports car company, a software services provider, a table linen manufacturer and a garden furniture company.

It should be noted that owning a trade mark does not automatically give you a right to own an internet domain name. In some cases it may be possible to prove that someone has bought a domain name specifically to sell to you as the trade mark owner. In this case you can appeal for it to be released, but in most cases this will not be possible. If an internet presence is important to your business, it is probably worth identifying names that are available as domain names and trade marks early on. Once you have identified a good available name, at least register the domain name without delay.

Trade marks are relatively easy to defend as infringement is usually simple to prove. You should take legal advice if you find your rights are being infringed. In many cases, disputes can be settled out of court.

Un-registered trade marks

Trade marks can also be protected through common-law. If you have been using a trading name or logo for a period of time, you automatically generate some rights to protect it. The enforcement can only be applied if you can prove that you have generated a reputation in the market under the mark. This can be difficult to prove and uphold so it makes good business sense to register any trademarks that your business will rely on.

If you are using a trade name or logo that is not registered, it makes sense to draw attention to its use as a trade mark by adding TM to the side of the text or logo. You should not however use the ® symbol unless it is registered.

2.6 Copyright

Copyright is entirely un-registered. Every time you create an artistic or literary work and fix it on paper, film, via sound recording or by publishing it on the internet, the copyright belongs to you. There is no link to the artistic or literary merits of the work.

Copyright is used to protect musical arrangements, drawings, written works such as books and magazines and interestingly, software code.

Infringement occurs only if a substantial part of the work has been copied. The act of copying has to be proved in order for the infringement to be proved.

It is a good idea to use the © symbol together with your name and the date on material that you wish to protect. This provides a warning to others against copying it, but is not a legal requirement.

As proof of authorship can be difficult to prove, one method for establishing authorship of a key document is to post a copy of it to

yourself and then keep the sealed, postmarked package in a safe place. Alternatively you have someone sign and date a copy as witness, or you could lodge a copy with your solicitor.

2.7 Working with patent agents and IP lawyers

Throughout this chapter we have discussed how you would be advised to use the services of a professional patent agent in the drafting, filing and prosecution of your intellectual property rights. The truth is that you could, of course, do all this work yourself. However the skill and experience that professional patent agents bring to bare on the process will usually be worth the extra expense. This is particularly true if your business is going to raise finance through equity investment. Investors will be greatly reassured if the technology they are investing in, is protected by professionally written patents and other registered rights.

That said, working with a patent agent is not simply a case of describing your idea over a cup of coffee, then expecting them to do the rest. You should expect to invest a significant amount of time with your agent. In addition to describing your invention, you should also explain to them how you see your business developing, what you want to achieve and where you want to achieve it. Only then will they be able to advise you properly about the form that your protection should take and what markets are likely to be worth protecting.

Depending on the complexity of your invention, you should put aside several half day sessions to properly describe it to the agent. You will then need to carefully read through the specification and claims that they draft. Your agent will also need help creating arguments against the examiner's objections and any prior art that the search identifies before the patent is granted.

As you can see, you are likely to build up a close relationship with your patent agent. It is quite common for agents to keep clients with them for many years, even as they move from agency to agency.

As your business progresses it is important to continually review your intellectual property position. You could use regular internal meetings to capture any new inventions that have been made or you could use your patent agent to carry out reviews of your development activities to advise on whether there are any protection opportunities that should be taken.

3 What is a company?

Until the middle of the 19th century, the only way to do business was as a sole trader or as part of a partnership. Under both of these models, the proprietors were entirely responsible and liable for the actions of the business. If the business became insolvent, the proprietor went to the debtors' prison and their family to the work house. This was hardly the incentive that investors and entrepreneurs needed to build the new ventures of the industrial revolution.

At the same time, the nature of business was changing away from small cottage industries and family firms to larger, innovation based ventures. Businesses were also looking into activities that took them overseas.

To drive the new economy forward, the concept of the limited liability company was introduced. The concept was highly innovative, elegant and simple and has proved to be superbly successful.

A Limited Company allows investors to risk only the price of the shares they buy in the company. Should the company become insolvent, they lose their investment, but nothing more. It allows entrepreneurs to be creative and adventurous without risking everything on the dream. Crucially it also allows a separation of responsibilities between those that own the company (the Shareholders) and those that run the company (the Directors).

3.1 The company as a legal entity

The Limited Liability Company is incorporated as an independent legal entity. In other words, it is recognised almost as a person in its own right. It has the right to own property, make contracts and has legal liability over its actions. In fact it has a life of its own. The company is separated from its owners, whose liability for its debts and actions is limited to the amount of equity capital they have bought. In this way a ‘corporate veil’ is drawn over the company that protects the investors.

In the left hand diagram below, the sole trader proprietor is the one who enters into contracts with the suppliers and customers. Should either of them sue, the owner is entirely liable. On the right hand side, the company enters into the contracts, now if legal action takes place, it is the company that is sued, rather than the owner.

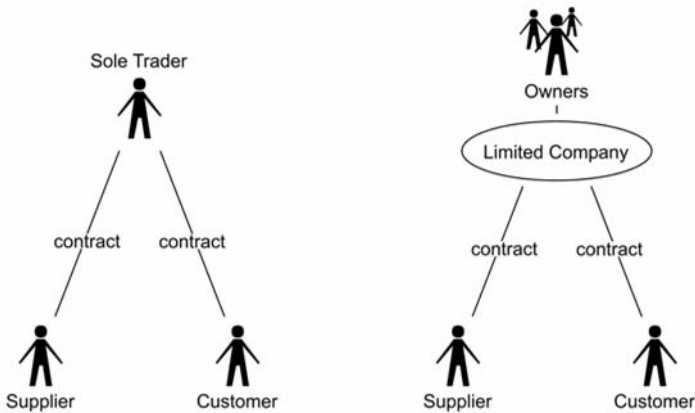


Fig. 3.1. Protected created by a limited company

The company is allowed to own property and this extends to owning shares in other companies. Corporate structures can therefore emerge to separate different parts of a larger business. In the example below, the intellectual property is owned by the

holding company at the top. The two daughter companies are wholly owned subsidiaries of the holding company. Each of them is granted an exclusive license to use the technology in their own markets by the holding company.

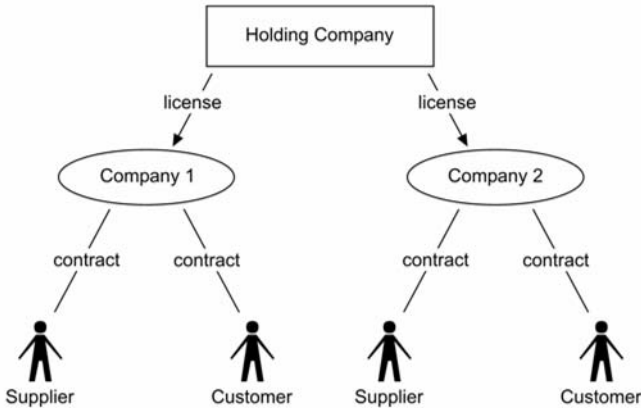


Fig. 3.2. An example corporate structure

The benefit of this model is that should one of the sisters fail, the intellectual property is protected, as is the other successful business.

Most start-up businesses will only require a single company structure however. You should discuss your business plans and aspirations with a corporate lawyer who will advise you of the best structure for your new business.

Types of company

There are four basic types of company that can be formed to carry out commercial activities. The first two, sole trader and partnership, do not provide any limit to the liability of the proprietors.

Anyone can trade as a sole trader or as part of a partnership. There is no registration process and no legal need for any formal

agreements or paperwork to be put into place. If you make or buy something to then sell, or offer a service on a commercial basis you are acting as a sole trader. That could even include your activities on eBay! The only official action you need to take is to notify the tax authorities of your changed status and additional income.

The same is true of a partnership. If you and a friend, or member of your family, start trading together, under the law you are a partnership. You share the proceeds of the business but you also share the liability. This means that you are personally liable for the actions of your partner. If they make a mistake and are sued, you are equally responsible and liable. Understandably, this is not the preferred route to starting a new risky business venture.

There are however, plenty of examples of successful sole traders and partnerships. In fact, some professions do not allow their practitioners to hide behind a corporate veil. For example, all law firms are in fact partnerships.

The vast majority of start-up companies are however formed as Limited Liability Companies. To form a Limited Company, you need to register it with the state. This is the equivalent of obtaining a birth certificate for the company and normally involves a small set of forms to be completed, together with the preparation of the company's constitution. The following sections describe this process in more detail.

For completeness, the fourth form of commercial company is the Public Limited Company or PLC. Essentially, the structure is the same as for a limited company, but the shares are offered to the public. To protect these non-sophisticated investors, the regulations surrounding how the company operates and reports its results are more onerous. Most PLCs have shares that are traded on a public stock market, but this is not always the case. If a company has a large number of small shareholders, it may need to become and therefore comply with the regulations of a PLC, even though there

is no market trading. We will look more closely at public markets in the chapter on raising finance.

Company constitution

Imagine the scenario of a group of investors or businessmen in the early 19th Century investing money in a ship to sail to far away shores and bring back spices to sell in the home market. As a partnership, they share the liability of the project as well as the potential profits. At the planning stage, they would all want to know exactly what supplies were being bought and what crew were being hired. As the ship sailed from port, most of the partners stay behind. They are now liable for events that they can have no control over. If a mast should break, they could not expect to be consulted over the decision to buy a new one, or agree to the price. They could not be consulted over the choice of purchases to bring home, or even the route to be sailed.

The invention of the limited company had a big impact on this type of trade. Now, the investors become shareholders in the business and are protected from such liabilities and responsibilities. The role of running the business, or ship in this case, is passed to the Directors, or Officers, who are empowered to make decisions and use the companies resources to the benefit of the business, and ultimately to the benefit of the shareholders.

To regulate a company two documents are required, The Memorandum of Association and the Articles of Association. The memorandum regulates the external affairs of the company and the Articles regulate its internal affairs.

The memorandum states the purpose for which the company has been established, in this case to sail to foreign countries, purchase goods and return them to the home market for sale. This document prevents the company from entering into any other business area.

The shareholders are therefore aware of the purposes to which their funds are being put.

The Articles regulate how the company manages its internal affairs, it sets the rights of the shareholders, the requirements for meetings, the powers of the Directors and the ability of the company to borrow money and purchase property. The Articles are a much longer document but a number of standard templates have emerged. Most private companies formed in the UK use a standard template for their Articles known as Table A.

3.2 Role and rights of shareholders

The ownership capital of a company is normally divided into many individual shares. Each share has a voting right on certain company decisions. The more shares an individual owns, the more votes they have and therefore, the greater their control of the company.

Since the shareholders effectively hand over the management of the company to the directors, what powers do they have left?

Shareholders are required to vote on matters that affect the structure of the company. These resolutions are put to the shareholders when the company wants to change its name, make any alterations to the memorandum or articles of association and when the company wants to issue new shares. Resolutions are divided into two classes, ordinary and extraordinary or special. To pass an ordinary resolution more than 50% of the shares need to approve it, for a special resolution, more than 75% is required. The company's articles of association set out the decisions to be treated as special resolutions, but they normally include things like making changes to the articles or waiving the constitution for a particular action. The diagram below summarises the shareholdings required to take specific actions.

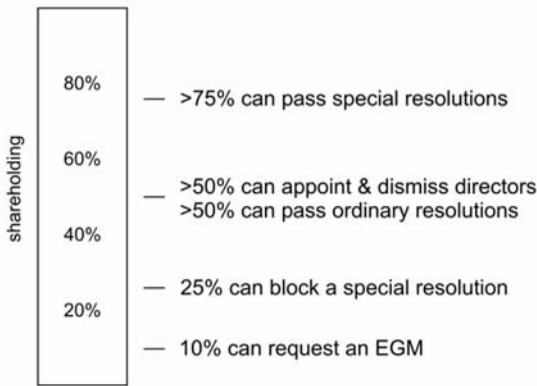


Fig. 3.3. The rights of different shareholdings

The shareholders have the right to appoint and dismiss directors usually through an ordinary resolution. A majority shareholder is therefore able to completely control the composition of the board of directors. This could be important for a founder who has attracted investment and sold more than 50% of the company. If the founder falls out with the investors or they feel that they are not performing, the new shareholders are entirely within their rights to sack the founder and appoint their own management team.

3.3 Company ownership and types of shares

In most simple situations, the shareholders of the company vote on the basis of one share, one vote. There can however be more than one type of share in a company and so things can start to get more complex. For most start-ups however, it is wise to keep the shareholding based on a single type of ordinary shares at least until any serious investment occurs that forces a different structure on you. So what types of shares are there?

Ordinary shares

In the simplest cases, all the shares of a company will be the same and will be 'ordinary' in nature. This will almost certainly initially be the case for a start-up, but as the company progresses and more shareholders are brought in different classes of ordinary shares may be formed.

Classes of shares

Within the different types of share, you can have different classes with slightly different rights between them. For example you might establish two classes of share, A and B. Both are ordinary and stand equal to receive dividends and can be traded under the same terms. You might keep the A shares for the founders and the B shares for the new investors. The shares could differ in that the A shares have different voting rights to the B shares. In this case the A shares are set up to always command a majority of the votes in the appointment and dismissal of Directors. In this way the founders have protected their right to control the board of the company regardless of their actual ownership percentage of the company.

Different classes of shares are very useful for creating special rights, voting blocks or protection mechanisms.

Preference shares

The dividend paid to ordinary shares is uncertain and variable. It may be high if the company has a good year and low if it performs badly. Preference shares are a type of share that exists to provide some shareholders with a specific fixed dividend ahead of the ordinary shareholders.

The most common form of preference shares will attract a fixed dividend. If the company cannot afford to pay the dividend, it accrues until it can be paid, often attracting interest in the process.

In the event of the company being wound up, the preference shareholders will also receive any remaining value before the ordinary shareholders, the value they receive will normally be their issue price. Preference shares do not normally have any voting rights.

Shares like these normally form part of the shareholding of a venture capitalist. It allows them to add some form of protection to their investment and ensure that they get any profit benefits first.

Redeemable shares

Redeemable shares are shares that the issuing company has the right to buy back from the shareholder. These shares often have a shelf-life in that the redemption dates may be specific or triggered by events or milestones achieved by the company.

This type of share can be used to redress the balance of an investor's shareholding should you meet your targets. The scenario could be an investor who takes 50% of the shares because it is a high risk investment. Half of these shares could be redeemable. If the company achieves certain targets that reduce the risk, the shares are redeemed to effectively reduce their shareholding to a more appropriate level. This will act as a good incentive for the founder to achieve the targets set.

Convertible shares

Convertible shares are shares that have the ability to change type and number. For example, a company might issue one convertible share that has the ability to be converted into 100 ordinary shares at some point in the future. This could be done to allow a particular shareholder to convert just prior to the company being sold, to achieve full value without them having the voting rights of that block of shares prior to that time.

One useful application of this type of share can be found in university spin-out companies. The University often wants more than a 25% stake, but this can damage the company's eligibility as an SME for some tax benefits and grants. If the University is issued 24% in normal shares and 1 convertible share, that can be expended to their full intended shareholding at some stage in the future, the initial shareholding remains under the threshold.

Convertible loans work in a similar way. The company may borrow money in the form of a convertible loan. The lender may then decide whether to retrieve the money or have the debt converted to shares at a pre-arranged price. This mechanism is sometimes used by directors who lend money to the company or by shareholders that want to spread their financial exposure to the company.

Complex shares

Each of these special share types can be used in isolation or their properties can be merged to create complex shares. For example a share that attracts a fixed dividend but that can be converted to a number of ordinary shares or bought back by the company in the future would be a convertible redeemable preference share.

The exact definition of what a share type or class can and cannot do is down to the wording of the articles of association. It is therefore entirely possible to create all sorts of complex share types. I have defined the common forms here but you may come across others as your business progresses.

Share option schemes

So far we have looked at shares in the company that are actually issued. Share options are promises that the company makes to allow the purchase of shares in the future at a fixed price. The benefit for the option holder is that if the share price goes up, they can buy them in the future for a lower price than they would then

be worth. At the same time, if the value goes down, they have not lost any actual money.

Share options are a very good way of attracting and keeping good staff. By offering options, the company is providing the incentive that if it does well, employees will be able to share in the success.

Many option schemes are approved by the tax authorities to allow tax to be paid only when a capital gain is achieved. This is important because if the employee was faced with a tax bill based on the value of the option when it was first granted, they would be out of pocket and unlikely to accept the opportunity.

Option schemes should be considered for all start-up companies as soon as they start to employ staff. In addition to the incentive to see the company prosper, it also deters valuable staff from leaving the company. If they leave, they lose the right to take up the option. If your business is going to rely on the knowledge or experience of key members of staff, these 'golden handcuffs' could be very important. Options will be expected by new senior management positions in many cases.

It would not be unusual to have up to 10% of the company equity committed to options. The existing shareholders are diluted by this amount, but if it promotes a growth in the share value, they will be happy.

3.4 Shareholders agreements

In addition to the memorandum and articles which govern the behaviour of the company, shareholders can enter into additional agreements to regulate the relationships between them and also to overcome any potential problems caused by a majority shareholding. These agreements are also common in cases where shareholders are working as directors of the company. Shareholders agreements are therefore very common in start-up companies.

A good example of the need for a shareholders agreement is in the case of an academic spin-out. In this case the professor is a director and shareholder of the company but will still require access to the university laboratories to develop the research to be exploited. There is nowhere in the articles of the company that can make provisions like this, so the shareholders agreement is used to allow the university (also a shareholder) to promise to commit its resources for the good of the company. The identification and vesting of any new intellectual property that is generated could also be dealt with by this agreement.

Shareholders agreements are only binding for those shareholders that sign up to them. It is therefore possible to have many agreements covering different topics, entered into by different shareholders. In some cases, the directors of the company and the other shareholders may not even know of an agreement.

The company could also be a party to a shareholders agreement, in its capacity as a legal entity in its own right. In this way, shareholders agreements can be used to provide control over policy for dividend payments, resolving conflicts of interest and lots of other control and management issues.

3.5 Roles and duties of directors

If a company is an independent legal entity, the directors are its mind and will.

The purpose of a board of directors is to determine the mission of the company, set the strategy to achieve it, allocate the resources and provide oversight to the delegated tasks set to achieve the strategy. At the same time the directors are accountable to the shareholders.

The board of directors is jointly responsible for the stewardship of the company and its assets. They have a duty of care over the

company for the shareholders. Unlike shareholders, each director on a board has a single vote and all votes are considered equal. Even if they are the majority shareholders, directors can be outvoted in board level decisions.

The joint responsibility is shared by all directors, whether they hold executive positions or not. This means that non-executive directors, who may only attend a single board meeting each month, hold equal responsibility for the company under the law as the full time managing director. This is an important point to note for academics who take directorships of university spin-out companies, or family members or friends who joint a board to help out an entrepreneur, and may not realise the level of responsibility they are taking on.

The management level of the company is empowered by the board to act on its strategy. This distinction between the board and the management can become blurred within a small start-up company. It is important to try to separate the two roles. This can be achieved through the running of two regular meetings, one a board meeting and one a management meeting. The attendants may be very similar but the agenda should clearly separate proper board issues from management issues. Minutes should be kept of all board meetings, and management meetings for that matter. Future investors or buyers will want to see these board minutes to see that the company has been properly run from the start.

Board composition

Executive directors, which might include a managing director, technical director, marketing director etc., have dual roles. They must fulfil the responsibilities of corporate governance on one part and the responsibilities of management on the other. There are likely to be times when there are conflicts of interest between the two roles. More potential conflicts of interest occur when the board sets executive directors' pay.

The inclusion of strong and effective non-executive directors on the board will often help to address such conflicts and tensions. Non-executives may be drawn from the investors or may be appointed to bring specialist expertise or experience. In large companies these positions attract a salary but very often in small start-up companies, good non-executives can be rewarded through share options.

Different aspects of the board's responsibilities can be dealt with through board committees. This can be a useful tactic when you want to include additional experience on your board but avoid heavy interference in the company's strategy. Some common board committees include an audit committee, remuneration committee and planning committee.

Director's duties

There is no single code of conduct for directors in the UK, rather a set of duties provided for by different laws and test cases. There are also several sources of best practice information. Laws governing company regulation and director's duty vary throughout the world. The following applies to UK limited companies.

As already mentioned, the directors of a company share the duties. This actually extends to people who act and are treated like directors but who are not formally appointed. These so called 'shadow directors' share the responsibilities.

The director's duties are owed to the company, not to individual shareholders. Only in exceptional circumstances can a shareholder sue the company to enforce its right to sue an errant director.

Director's duties and responsibilities fall into 6 main headings:

- Fiduciary duties
- Duties of care and skill
- Duties of internal management
- Duties to third parties

- Criminal acts
- Duties during the winding-up of the company

Under their fiduciary duties, a director must not put themselves in a position where the interests of the company conflict with their personal interests or duties to a third party. Directors can have outside interests, but must declare them to the board if a conflict is likely. For example if a director is also a shareholder of a supplier company which tenders for business, or if an individual is a director of two companies that might compete with each other for a contract.

Other fiduciary duties include not making a profit from the position of director and acting in good faith in the interests of the company.

Directors are expected to carry out their role showing a level of skill and care. If a director breaches this duty they can be personally liable. Ignorance is no defence, if the breach could have been avoided had the director taken legal or professional advice, they will not be excused.

Directors have certain duties of internal management set out by the 1985 Companies Act. These include the keeping of accounts, books and making timely filings to the state. Failure to comply can result in fines and in serious cases, imprisonment.

Directors also have duties to third parties including employees, shareholders, customers, suppliers and to ensure that the company complies with health and safety regulations.

If the company commits a criminal offence, the directors may be judged to have committed an equivalent offence if they provided consent to the act or if the act occurred due to negligence or a failure of their duty of care. Cases of Directors being personally charged as responsible for their company's criminal behaviour have included tobacco companies, companies charged of environmental

pollution and more recently, public transport operations that have been involved in fatal accidents.

Insolvency

While on the topic of directors responsibilities, it is also worth you knowing the definitions of insolvency, fraudulent and wrongful trading. Unfortunately these are very relevant to small companies that run into cash flow problems.

A company becomes insolvent when it no longer has the financial means to settle its debts. Directors should be aware of this situation should it arise and should not commit the company to further debts. Directors can become personally liable for debts that are incurred after the company has become insolvent.

Fraudulent trading is defined as knowingly carrying on a business with the intent to defraud creditors. In the case where a company is insolvent, this becomes relevant as incurring debts when the directors know that there is little prospect of the company being able to pay them is deemed as fraudulent. As this is a serious criminal offence, prison sentences are not uncommon.

Again, ignorance of the financial state of the company is no defence. Wrongful trading covers cases where the directors have failed to realise that the company was becoming insolvent. Wrongful trading assumes that the directors should have known the situation and are therefore liable.

When presented like this, the duties and responsibilities of directors may seem a little scary. Becoming a director of a company is a serious matter and one that should not be taken lightly. There are many sources of advice on everything covered in this chapter and in the same way as you are advised to seek professional intellectual property advice, a good corporate lawyer will be very important to your company as it progresses.

4 How do you market your product?

So far we have explored the potential demand for your idea, we have looked at the industry you will be competing in and we are ready to establish a limited company as the vehicle for your plans. All that remains is to start selling.

Well, not exactly. Marketing is indeed the next thing on our list but marketing is not just business speak for selling, it involves a great deal more than that.

4.1 Marketing and selling

I define marketing as:

The strategies employed across the entire process of designing your offering to meet the needs of the customers you want to sell to, and the mechanisms by which you promote it and finally deliver it to their satisfaction.

There is an old saying that states that 'if you invent a better mouse trap, the world will beat a path to your door'. Unfortunately this is simply not true. Products that achieve great market success rely on a lot more than simply being technically superior to the competition.

Better marketing is responsible for a long list of successful products that have beaten off technically superior competition. VHS video beat Betamax, which was a better technology and is still used by broadcast professionals. Apple's phenomenal success with the iPod is less about its technology, there are any number of clever MP3

players, but more about Apple's marketing strategy. That marketing effort has included the product's physical design and easy controls, the trademark white earpiece leads, the introduction of iTunes to provide the music, encouragement of the PodCast medium as well as the more traditional promotion and selling activities. It is likely that the current competition between rival high density DVD formats will not be won on the grounds of technical superiority but on the marketing thought and effort that each camp can bring to bare.

Defining marketing as a strategic process that encapsulates everything from technical specification through to eventual delivery, means that every product decision becomes a marketing decision. This is where a thorough understanding of your target customer's problem, which you developed in chapter 1, will really become valuable. Every decision that you make in developing the product or service needs to refer back to the customers need to solve their problem. Working this way is sometimes known as being market led and if you get that right, the promoting and actual selling of the product will be much easier.

My definition of marketing also refers to 'customers you want to sell to'. This defines your market. As your business grows you will need to move from one market to the next, but how do you draw boundaries between them and decide what order to address them in? The boundaries within an overall market will vary, but could be based on geography, language, target customers' age, industry sector, available revenue or the nature of the customers need.

A good way to help you define these boundaries is to separate out groups within the market that are reasonably likely to communicate with each other in some way. This could be through the influence of the same people, reading the same trade press or attending the same exhibitions. Customers do like to share opinions about things they have bought or services they have used. When was the last time you ate at an expensive restaurant without reading a review or

hearing somewhere that it was good. The market for that restaurant has boundaries defined by how far word can spread about its quality.

Geography is therefore an obvious boundary. A satisfied customer has limits to how far they can spread the news and the relevance of the recommendation can become less as the distance increases. The internet has dramatically reduced geographic relevance but if your service is location based, the boundary will be very localised.

To define your market boundaries, return to your answers to the questions posed in the first chapter. From your definition of who your customers are, divide them into different market segments using sensible distinctions such as geography, age, industry sector and so on. What you will end up with is a set of different smaller markets within which it is reasonable to expect that if you convinced a key opinion leader or placed a strategic advert, word could spread throughout that niche.

4.2 The product adoption lifecycle

Markets are also segmented by their attitude to new products and their buying behaviour. In 1991, in his widely acclaimed book 'Crossing the Chasm', Geoffrey Moore described the technology adoption lifecycle and the different groups within it. The principle is that within any market, there will be some buyers who are keen to experiment, others who will only buy when their peers do and yet others who will resist buying until there is no other choice.

These behavioural differences within the market spread out your sales over a long period of time. The diagram below represents a typical market penetration rate for a new product or service. The different stages of the curve can be attributed to different buying behaviours and in most cases, you will need to adjust the way you

market your product or service to meet the demands of these different customer groups.

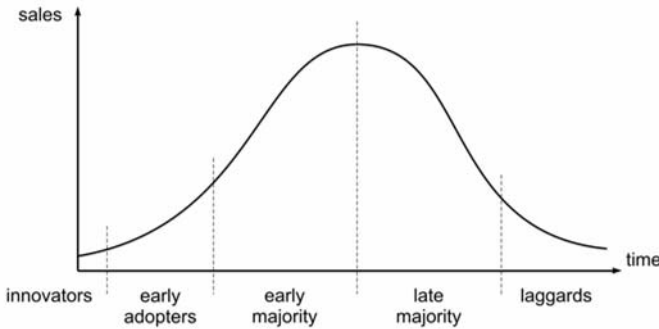


Fig. 4.1. The product adoption curve

The areas within each part of the curve are very important. The bigger the area, the more customers there are of that type. Therefore there will be many more customers in the early majority market than in the early adopter market. Let's look at each of the groups in turn.

Innovators

If you have a new enabling technology or something particularly unique, your first customers are likely to be innovators. Innovators seek out new technology, products and services often before it is formally marketed. They are interested in the technology for its own sake and happy to live with poor performance, non-existent documentation and teething problems.

Innovators were the people who bought the very first digital cameras when the image quality was bad, there was a 2 second delay between pressing the shutter button and the photo being taken, you could only store a few images on the tiny memory card and then it took ages to transfer the results to a PC. It didn't matter

that it was highly impractical, it was a digital camera and they had to have one.

Quite clearly, these individual customers are few in number and you might even be tempted to skip over them on your way to the larger markets. However they are very useful for carrying out early product trials and they often provide good quality feedback as they are knowledgeable about all the likely competition.

Early adopters

Early adopters are the first group of customers who are actually interested in what your product can do for them and how it will solve their problems. They are however visionaries. They are prepared to buy your product because it will offer them a strategic advantage.

Early adopters were the first to buy mobile phones in the early 90s. The cost was high and the coverage was patchy, but it gave them a strategic advantage in being able to perform better by keeping in constant communication.

Early adopters are often happy to act as highly visible references for your product, writing trade articles and papers about its use. Early adopters provide good early sales growth, but they soon move on to the next big thing.

The majority market is the big prize. In most cases there is not enough revenue potential in the first two early market stages to pay for your development costs and certainly not enough customers to sustain your business going forward. The behaviour of the majority market can be separated into two, the early and late majorities.

Early majority

The early majority are much more pragmatic than the early adopters. These customers are keen to have their problem solved but are much more risk averse. They take the attitude that it is better to let someone else de-bug the product. Crucially they are the first group of customers for whom references are important. This means that they are highly influenced by what their peers think of the product.

Late majority

The late majority are more conservative in their attitude to new technology and ideas. They have a nostalgic and traditional outlook and only buy into an idea when it is well established, typically supplied by a brand they trust and the price has dropped to a sensible level in their mind. Late majority customers like to buy bundled products that work seamlessly.

Laggards

The final group in the process are the laggards. This sometimes surprisingly large group are highly resistant to change and anything new. They only buy when there is absolutely no alternative and the price has dropped to the lowest it is likely to. Laggards are the people who still haven't bought a DVD player even though they are under \$50 and come with 50 free films. This group is often ignored but they do represent a sizable market so may be worth making the effort for, especially if your offering includes the supply of parts or follow-on services that could last for a considerable time.

4.3 Moving from one group to the next

These different behaviours segment virtually every market but are particularly acute in technology based markets. As you can see, their behaviour is likely to require different marketing strategies and this means that as a business, you need to identify when the transitions are likely to occur and plan for them.

The principle message of Moore's book is that the transitions are a little more than simple bumps in the road. If we look at the transition between early adopter and early majority, not getting it right can easily stop you in your tracks.

The difficulty is caused by the pragmatists needing to see their peers successfully work with you before they will take that risk. Peers to a pragmatist mean people like them, not the innovators and visionaries that you have already sold to. This creates a 'catch 22' situation, pragmatics won't buy from you until they see other pragmatists buying from you.

Breaking into the majority market becomes the single most difficult stage of a start-up company's life. One minute sales are growing as the early adopters buy into your idea, the next minute, sales collapse as you exhaust the early adopters but fail to walk straight into the majority market. A more typical sales curve is shown below. The size and duration of the dip, and whether you ever come out of it, will depend on your marketing strategy for entering the majority market.

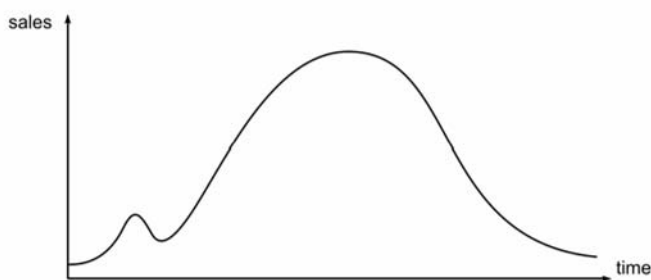


Fig. 4.2. The real adoption curve

Start-up companies are particularly vulnerable to this dip. The early growth of sales is very exciting and it is easy to get carried away by the success. If the dip occurs just after you have appointed your new personal assistant and put a deposit down on a sports car, you are going to be in trouble.

The later transitions are still felt, but are not as dangerous as the first. You can see the effect of businesses changing their marketing strategies as they move from early to late majority markets. PC manufacturers, for example, in moving from the early majority to the late majority, have changed from selling separate components to offering complete bundles of PC, monitor, printer, scanner and piles of software at ever reduced prices.

Winning the majority market

The secret to successfully breaking into the majority market is careful market segmentation. Let's look at Research in Motion Ltd., the highly successful Canadian mobile communications company behind the Blackberry wireless platform. RIM was formed in 1984 with an innovative new technology that allowed time sensitive information to be 'pushed' to customers' mobile handsets as soon as it became known. Up until this point, data was available but needed to be fetched from a source or server by the user's device. The

difference may seem almost trivial. On one hand, if you want to know something you ask, on the other, you are told the information as soon as it becomes available.

The company was able to identify lots of potential users who might be able to benefit from this capability but trying to sell to them all would stretch the resources of the young company very thinly and they would struggle to break into any of the majority markets. The company was however able to identify the market with the most to gain from the technology and develop a complete solution for them. One of their early markets was the city traders who could be made or broken by rapid stock or currency price changes. Blackberry offered a stock price broadcast service whereby subscribers could be immediately informed of price fluctuations wherever they were. This provided a strategic advantage and allowed the company to successfully break into the market.

Having established itself in the city, the company then expanded into other market segments and used the satisfied customer base in the city as their references to convince the new markets of their pedigree. Gradually by moving through medical professionals, sales forces and business consultant markets they are now entering the main stream mobile email markets.

Just by looking at how the blackberry hardware product has changed from a pager device to a colour screen digital assistant that also contains a mobile phone, calendar and other facilities, you can see how the product marketing has changed as it has moved from one market to the next. In 2005, RIM surpassed \$1.3bn in revenue with over 2.5 million users.

Mobile phones also show how marketing has enabled the same basic product to move from one segment to another as the companies involved progress through the majority market space. A good example of this was the entry into the school children market. There was a need and certainly a demand, but parents were

concerned about uncontrolled use and children running up large bills. The advent of pay-as-you-go offerings alleviated this concern by allowing parents to control the amount of spending. This was pure marketing, and allowed the lucrative sector to be exploited.

Keeping focus

Breaking into the majority market is therefore about winning the easiest niche first and then expanding into the rest of the market using each segment as a reference for the next. The easiest niche can be identified as the one within which the benefits of your product or service are most obvious and your customers problems are the most acute. Success can only be achieved by concentrating all your effort on these customers to ensure that you first break into and then, win the niche.

There is however, a common temptation for start-up companies to get distracted and lose focus on their target niche market. This can be made worse by innovators from other markets enquiring about your product and suggesting that it could be useful for them too. If you are not careful, you find your company building prototypes for other sectors, carrying out new market research, even holding meetings with customers or suppliers. All these activities detract from what you should be doing, which is to win the first target niche. Once this is achieved, you can use some of the revenue you earn to investigate the next opportunity, but not until then.

Keeping focus can be very difficult, especially if you have an exciting new technology or product. When the going gets tough, it can be tempting to look at other sectors and capitalise on their early adopters. You must win the majority market though, there is not enough potential in early adopters to sustain a business in the long term. Remember the old saying, if you chase two rabbits, both will escape.

Solve the problem

Having established that you need to focus on your target niche market and nothing else, how do you achieve the best results? Go back to the answers you created in chapter one about the customer's problem and how you solve it. The marketing strategy that evolves from this is to create and offer your product or service so that it does everything necessary to solve the problem but nothing more.

Take a walk in their shoes

If it is possible and practical, become your customer for a short while. For example, if you are developing a quality control system which helps check for errors on a production line, arrange to work on the production line for a few shifts to really get an appreciation for the environment and the sorts of problems that occur. While you are there, talk to the operators, have tea breaks with them and find out how the process actually works.

This may sound a little far fetched but it is not difficult to accomplish. Early adopter customers are often very happy to extend this sort of hospitality. They see you as part of their team to achieve an advantage for them. If it helps you deliver a better product to them, why would they not allow you access to their process.

Don't just do this yourself, but if you can, encourage your staff, especially your development staff, to go out to meet and work with customers. Their understanding of the problem will greatly enhance their work towards good solutions.

You will need to understand as much as possible about your customer's life or business, what they want, why they want it and why other solutions have not yet satisfied them.

With a sound understanding of the problem, you can build a solution that customers almost have no choice but to buy. Their satisfaction will be high and their enthusiasm to spread the word will also benefit you greatly.

4.4 Critical success factors

There are some things that within any industry you just have to get right. Failure to satisfy these critical factors will mean that even if you get everything else right, your business will still fail. In the retail sector, the critical success factor is location. You could have the best laid out store design, the most knowledgeable and helpful sales staff, the best value for money for your product, but if the location of your store is wrong, none of these other strengths will overcome this weakness. Some critical success factors are obvious or, at least well known, such as location for retail or conforming to standards within engineering. Others can be less easy to spot without the benefit of hindsight. The first step is to carry out a thorough risk analysis of your business. I am afraid that it is time to do some more homework, so grab those pencils and papers and get yourself a fresh mug of coffee.

Analysing your business risks

By far the best way of avoiding trouble is not to get into it in the first place. This is all very well, but it relies on being able to spot the trouble in advance. This is where risk analysis comes in. We need to think ahead and identify all the areas of risk that your business will face and think of ways of either avoiding the problem altogether or at least mitigating the effects.

Typically we can divide the risks that your business faces into three sets; technical, commercial and managerial. We will look at managerial risks later in the book, for now we will just concentrate

on the technical and commercial risks as these are the areas that relevant to our marketing plans.

For each of the risks that you identify, you need to describe five key aspects:

- The nature of the risk or what could go wrong.
- How likely is it to happen, here you could use a score from 1 to 5 or single words like high, medium and low.
- What impact would the problem have or what would happen if the problem occurred, In addition to a quick description, rank the impact as low, medium, high or show-stopper.
- What warning is there likely to be that the problem is going to occur.
- What mitigating strategies could you use to firstly, try to avoid the problem, and secondly overcome it if it does occur.

A good way of capturing this information is to create a table with 5 columns, one for each of these questions. Then use the table to capture the risks as you think of them.

Technical risks

The technical risks will be those things that could go wrong in the creation of your product, its construction, manufacture and delivery. This can be a depressing exercise, but you need to play devil's advocate. If you can get a group of people together to carry out the exercise then you will stand a good chance of thinking of most of the technical risks you face.

Firstly, analyse any innovative aspects of your product. What technical challenges still exist? Risks will present themselves when you ask, what if:

- we can't get that bit to work?
- the power requirements run the batteries down too quickly?
- the mechanical parts don't fit together?

Work methodically through your product, testing each aspect of the work you still need to do.

Next think about the delivery of your product or service. This will include the aspects of manufacture, quality control and testing. Again, work methodically through each aspect of the delivery process, asking questions like what if:

- we can't achieve the desired tolerances?
- the yield from any processes are low?
- elements are damaged during construction?

A natural next step is to look at the supplies and suppliers you will rely on to deliver your product or service. What if:

- suppliers let you down or cause delays?
- suppliers go out of business or cease to make the components you need?
- sales increase drastically, can they keep up, can you keep up?

Finally examine the risks to costs and productivity. What if:

- suppliers increasing their fees or component prices?
- you have difficulty finding staff with the appropriate skills and experience?
- it takes longer to make than you think?

Commercial risks

The process of analyzing commercial risks is very similar to technical risks, except that in many cases, the mitigation will be to carry out more extensive or better focused market research. This is therefore a very important exercise as it allows you to concentrate your marketing efforts at the aspects of the business that most need it and are most likely to create problems for you in the future.

Firstly, examine the design of the product or service and ask questions like:

- does it fully solve the customers problem?

- does it do anything for the customer that they don't need or want?
- could it possibly create new problems for the customer?
- are there any weaknesses in the design?

Next, turn to your knowledge and understanding of the market and your customers. What gaps exist in your knowledge of the market, what assumptions have you made that you have not been able to verify, how up to date is your market data, and so on?

Next, look at the positioning of your company and offering in the market and the likely response of the competition. What if:

- the competition drops their price?
- someone tries to copy your idea?
- you can't gain a good reputation in the market?
- customers fail to trust you?
- you can't get through to the key opinion leaders,?
- you get bad reviews?

If relevant, examine the intellectual property risks that might exist. What if:

- your patents are challenged?
- the licenses you need are not forthcoming?
- you can't register your trademarks?
- someone infringes your rights?

The next step is to examine the risks associated with actually selling to your customers. This is a large risk area and breaks down to a number of its own headings. The first of these is the risks associated with your shop front. Whether you have actual premises or whether your 'front of house' is a website, a brochure, a contractor, you yourself or a mixture of any of these, there are many risks associated with the impression that your appearance makes, how accessible it is and how easy it is to find. What if:

- you get store location wrong?
- you can't get distributors to promote you properly?

- the website crashes?
- there are printing or design problems?

The next set of risks relate to your selling mechanisms. You will need to examine the risks associated with how you locate, attract and deal with your customers. There are likely to be risks associated with your relationships with distributors and agents. What if:

- they demand too high a margin?
- they want to replace you with a competing product?
- you want to replace them?

Next there will be risks associated with the promotion of your product or service. What if:

- you struggle to achieve the awareness you need within the market?
- interest in your product is limited?
- the trade press don't want to write about you?

Positive outcomes can also create risks however, what if:

- interest is high and you are overwhelmed with enquiries?
- you require more demonstrators or stock?
- you get a huge order that you can't deliver?

The last set of the selling risks are attributed to the closing of deals and sales. What if:

- customers take a long time to make buying decisions?
- you can't achieve the price you were hoping for?
- the process of closing each sale is more time consuming than you hoped?

Following a logical route, the next set of risks will be the delivery of the product or service. Here the risks are likely to include problems with delivery and the recovery of revenue. What if:

- products get damaged on delivery,
- installation problems occur?
- orders come from areas that are difficult to access?

- payment terms are not respected?
- customers attempt to defraud or steal from you?

Finally we need to look at aspects of customer satisfaction. What if:

- customers are dissatisfied?
- they complain publicly?
- repeat business is slow?
- they find alternative suppliers for consumables?
- they inundate your technical team with enquiries and suggestions?

Identifying the critical success factors

Now that you have a completed risk analysis table, take a highlighter pen and mark each risk that you ranked as a show-stopper in your analysis of the impact. If there are less than three, look back at all the risks marked as high impact and promote the worst cases to show-stoppers. This is not a time to be optimistic.

The risks you have selected in this way are your critical success factors. For each one, you will need to expand on your method of forecasting their likelihood and mitigating them. In developing your marketing strategy, concentrate your efforts on avoiding and mitigating these risks as a priority.

Managing risk

Now that you have your completed risk analysis, don't be tempted to think that that box is ticked, file the list and forget about it. It is a good idea to regularly review your risk analysis, update their likelihood to occur, update any forecasting methods and continue to develop your mitigating strategies.

Remove any risks from the list that you have avoided or completely overcome and add new risks as you foresee them.

4.5 What should be in your marketing plan?

It is worth writing down your marketing plan even if you don't need it to impress a potential investor or bank manager. The process of creating it will help you arrange your thoughts and justify your decisions.

Your marketing plan should include a detailed description of each of the potential markets or customer groups that you feel your idea could be sold to. For each group describe the problem you solve and the form you think your idea should take to satisfy the customers.

For each of these market opportunities, find out as much as possible about the potential market size and the behaviour of the market (is it growing, static or likely to change soon).

Next, identify and justify your choice for your first target market. This one will need to be investigated in more detail. You will need to know how many potential customers there are, what they would be willing to pay for your product, who they are currently buying from and as much as possible about the problem you are going to solve for them.

If there is competition in the target market, start a file on each of them. Collect product literature, print out a copy of their website and scrutinise it to find out how and why you are going to be better than them. Try to imagine what they might be able to do to resist your entry into the market and how you will cope when they do.

Start to collect lists of potential customers so that when the time comes, you know who to call and see. Try to find out who the key opinion leaders are, where they meet, even where they socialise or network. It should go without saying, that if there is a networking event, society or club where your customers meet, then you should join and attend without delay.

Next, identify the next few market segments and describe the route you plan to take to break into them. You will not need as much detail on these sectors yet, but it is best to have at least identified them and made a start early on.

Creating this plan should not be done in isolation. The plan will benefit greatly if the whole team takes part in the thinking process and decisions. If there are enough of you involved, you could even set up teams to investigate different opportunities, everyone then coming back together to decide on the segmentation strategy. The more you involve all your team, the more they will understand where the company is going and be in a position to help achieve the goals. Motivation can be a very welcome by-product of this process.

Once the plan is written, don't just put it on a shelf, keep it up to date and refer to it. When it is time to move onto the next segment, use the plan as a reference to judge how closely your original research matched what you found in the market. Use this to judge how much work you need to do to understand the next segment.

Remember, you can never know too much about your customers.

5 How do you finance your business?

There are two basic ways of funding your business. The first is to grow the business organically; sometimes this is called 'boot strapping'. This means that you don't spend any money other than your own until you have made a sale and you then grow the business only by investing the profits that you have made. You pick the business up by the boot straps. This model works well for consultancy and service businesses where there are little or no up-front costs, no need to have expensive offices or equipment and where you can start selling immediately.

The second way of funding your business is to bring cash into the business, either through the sale of equity, the taking on of debts or by winning awards and grants. This model is more common where there is likely to be a developmental period before products can be sold or where the business requires expensive equipment, facilities or premises.

Which ever of these two models you intend to follow, it is worth having an understanding of the different sources of funding. Even if you intend to grow your business organically, it might be necessary to raise funds in the future to provide faster growth or take on debt to deal with cash flow issues.

5.1 Cash flow

Rule number one in running a business is never run out of cash. A business with insufficient cash to meet its immediate needs is insolvent with all that that entails.

Cash flow is very important for all types and sizes of business but is perhaps most critical to small and growing companies. Fast growth companies have particular problems as the following tables illustrate.

Lets look at a few examples. In each of the following cases, a product is sold for \$100 and costs \$75 to make.

In the first example, payment of costs and receipt of revenue are simultaneous and there is no market growth.

Table 5.1. Aligned revenue and costs

Month	1	2	3	4	5	6
Unit Sales	10	10	10	10	10	10
Revenue	1,000	1,000	1,000	1,000	1,000	1,000
Costs	750	750	750	750	750	750
Earnings	250	250	250	250	250	250
Cash	250	500	750	1,000	1,250	1,500
Balance						



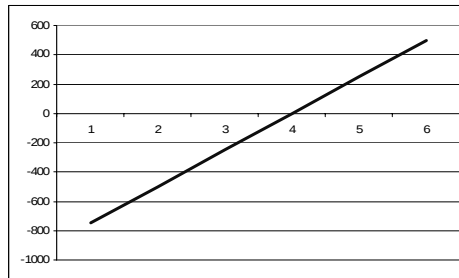
Fig. 5.1. Cash flow with aligned revenues and costs

The cash flow shows a healthy growth and there are no problems.

If we delay the receipt of revenues by a month by giving customers 30 days to pay, the business needs to fund the shortfall in cash flow until the profits can catch up, as in the next example.

Table 5.2. Effects of delayed revenue

Month	1	2	3	4	5	6
Unit Sales	10	10	10	10	10	10
Revenue	0	1,000	1,000	1,000	1,000	1,000
Costs	750	750	750	750	750	750
Earnings	-750	250	250	250	250	250
Cash	-750	-500	-250	0	250	500
Balance						

**Fig. 5.2.** Cash flow with delayed revenue

The cash flow grows at the same rate but must be supported with working capital to cover the initial debt.

If the sales are growing, the time taken to recover the cash flow takes longer as each month your costs go up but the increase in revenues from the increased sales are delayed. In the next example sales are growing at 20%.

Table 5.3. Delayed revenue and modest growth

Month	1	2	3	4	5	6
Unit Sales	10	12	14	17	20	24
Revenue	0	1,000	1,200	1,400	1,700	2,000
Costs	750	900	1,050	1,275	1,500	1,800
Earnings	-750	100	150	125	200	200
Cash	-750	-650	-500	-375	-175	25
Balance						

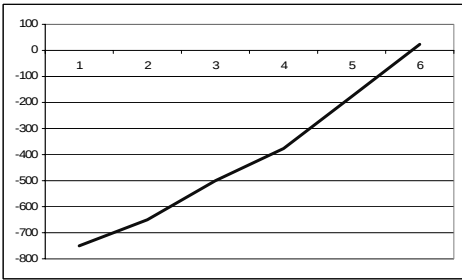


Fig. 5.3. Cash flow with delayed revenue and modest growth

It takes longer to recover but eventually the cash balance becomes positive and subsequently continues to grow nicely.

If the sales growth occurs at a faster rate however, the effect can be disastrous. In the final example sales growth is increased to 40%, however the same effect can be seen with lower growth rates if the payment gap is extended by having to pay suppliers in advance.

Table 5.4. Delayed revenue and rapid growth

Month	1	2	3	4	5	6
Unit Sales	10	14	20	28	39	55
Revenue	0	1,000	1,400	2,000	2,800	3,900
Costs	750	1,050	1,500	2,100	2,925	4,125
Earnings	-750	-50	-100	-100	-125	-225
Cash	-750	-800	-900	-1,000	-1,125	-1,350
Balance						

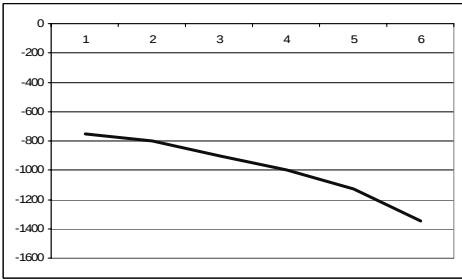


Fig. 5.4. Cash flow with delayed revenue and high growth

In this scenario the cash balance gets increasing worse each month even though sales and revenue are growing. An overdraft is no use in this situation, factoring or finding a means of reducing the time between incurring costs and receipt of revenue is the only way this business can survive.

Management accounts should be prepared every month so that you can forecast your income and outgoings to avoid running out of cash.

5.2 Sources of finance

The three basic sources of funds for start-up businesses are the winning of grants, the taking on of debt and the sale of equity.

Grants are in some ways free money, they bring cash into the business that does not need to be repaid and that does not reduce your ownership in the company. There will however be terms and conditions attached to the grant that you must adhere to.

Debt can take very many forms, not just loans and overdraft facilities. They all generally require repayment and the payment of interest. Loans provided to start-up companies may require the Directors to put up guarantees. Loans stand before shareholders, so if the company fails, the loan will be repaid before the shareholders receive any residual value.

Equity investment is a common means of raising finance for businesses of all sizes. The basic principle being that you sell some of the equity of your company to an investor. The money raised is used by the company to grow. The investor will hope to see a good return on their investment but if the company fails, the investor loses their money.

Grants

Most of the world's industrial economies have agreed to try to maintain a fair competitive landscape for businesses by avoiding state interference and assistance within individual sectors or companies. Some of the rules regarding assistance are monitored and enforced by the World Trade Organisation. Others are governed at federal or national level. Within the European Union, the rules on 'state aid' are strict and start from the premise that all state interference and aid to companies is prohibited. Provisions are then made to allow limited exceptions to this ban. The exceptions typically allow individual states, and indeed the European Union itself, to provide assistance to companies working in certain geographic areas and with certain economic activities.

Practically, this means that governments are allowed to offer companies working in recognised deprived areas, financial and practical assistance in order to stimulate the creation of employment. It also means that governments can provide grants to help companies and sectors develop new technologies and processes. A multitude of grant schemes, ranging from hundreds to millions of dollars, have therefore been created to provide strategic assistance to companies. Some grants are available to single organisations, others require groups of companies to work collaboratively, either with other companies or with research institutions such as universities.

In all but a very few industrial grant schemes, the support will be a contribution towards the total cost of the project. For example a grant may pay 50% towards a project's cost. This means that the company will have to match this funding and spend its own money to provide the remaining 50%. To avoid fraud, most schemes that provide funding to companies make their grant payments in arrears against audited statements of project expenditure.

Many grants that support the development of new technology or products are collaborative. This means that a number of companies come together to carry out a joint project and share the results that are achieved. Projects like this can be a very powerful way of forming lasting partnerships with suppliers and customers. You will however, need to make sure that the legal agreements that are put into place to manage the project, and the subsequent exploitation of the results, are fair and deliver sufficient benefit for your contribution to the project. Often called a collaboration agreement, this document can take just as long to agree as the grant application process itself.

Using grants to bring funding into your business has many advantages. Compared to other approaches, the process of applying for grants is straight forward. The rules and eligibility criteria are always published and in many cases, there is plenty of advice available to help you apply. There is little interference from the grant body in the day to day running of your business and as long as you adhere to the terms of the grant award, you will not need to repay the money.

The disadvantages of grants are that often the application process is time consuming and can take many months to achieve, years in some cases. If payments are made in arrears, you may still require assistance to maintain a healthy cash flow while waiting for grant claims to be paid. In some cases, if your business direction changes and you fail to adhere to the terms of the grant offer, you may need to repay the grant. For example, many grants within Europe stipulate that exploitation of the results should be carried out within Europe for some years after the project finishes. If the market changes and you are forced to license the technology to an overseas company outside Europe, you may be in breach of the grant and have to repay it.

On balance however, grants are an excellent source of funds for start-up businesses and in addition to providing funds can add

value in terms of forming valuable collaborations, providing prestige and publicity for the business and demonstrating to potential future investors that other people think your ideas are worth funding too.

Your company may be eligible to apply for many different grants. To find out what might be available, contact your local business advice centre or a relevant trade association.

Debt

The simplest form of debt is a loan. Loans can be provided by anyone from a friend to a bank. In all cases, the fundamental components of the loan are that you have to repay the capital, the amount you borrow, and in addition compensate the lender for depriving them of their money for that period of time. This compensation normally takes the form of interest payments calculated at an agreed rate, but it could take the form of barter where you provide the lender with some service or access to your facilities.

Most commercial lenders, such as banks, do not like to provide loans if there is a risk that they could lose their money. Before entering into the loan, they will want to see a financial plan of how you intent to make good on the repayments. Often they will require some sort of security on the loan. This way, if you are unable to repay the loan, they can take ownership of some capital asset, either belonging to the company or put up by the Directors as security for the loan.

Not surprisingly, most Directors are unhappy about putting up their houses as security against their company's debts and negotiate strongly to avoid these situations. Many countries offer loan guarantee schemes to small companies whereby the state provides the security for the loan. Such schemes are normally organised

through the bank, so ask the manager for details of schemes you could use to secure any loans your business needs.

A less obvious form of debt is asset finance. This includes hire purchase and leasing arrangements. Although the eventual cost of leasing equipment or facilities over a long period of time is greater than the cost of purchasing it outright, the leasing option allows the cost to spread out over many years.

As described earlier, cash flow is essentially your day to day bank balance. If your business makes or sells products of any type, you will have outgoings for parts or components that you have to pay for. When you sell the product, your customers pay you. If there is a gap between these two transactions, in other words if you pay your suppliers before you get paid, then you need to find a way to bridge this gap. The same is true if you provide a service, very often you invoice the customer after the service has been delivered and your costs have been incurred. You can of course maintain a healthy float in your account to bridge the gap, this is called working capital, or use an overdraft facility, but sometimes you might need a little more help.

Factoring or invoice discounting is one form of debt finance that is designed to help companies overcome cash flow issues such as these. Factoring is essentially selling your debt (what customers owe you) for immediate payment. Imagine that your business involves you issuing invoices to your customers and that they have thirty days in which to pay. Factoring means that you sell the invoice to a third company, normally a bank or financial services company. This company gives you cash immediately for the invoice but at a discounted rate. They might for example give you 95c for every \$1 the invoice is worth.

Using debt to fund aspects of your business may be essential and fortunately has many advantages. In general there is little or no day to day interference in your company from the lender. Debt is a

relatively cheap form of funds as it does not involve parting with a share of your business equity and the documentation is normally simple.

There are however some disadvantages to debt finance. In some cases, lenders will impose covenants on your business that prevent you from going to other lenders or using other funding mechanisms. They do this to protect their position but these could be restrictive. The main disadvantage of debt however is that, in times of difficulty, lenders such as banks are more interested in their capital than the continuation of the business and will not hesitate to close the business if they see a risk of losing their capital.

In balance, most businesses use debt in some form or other throughout their life and it is often the most appropriate tool in managing cash flow.

Equity

Equity funding is the process of selling a share of your company to raise money that the company uses to grow. The investor takes a share of the ownership of the company and therefore will share in the profits and the eventual value of the company in the future. In most cases the money is not repaid and if the company fails, the investor loses their investment.

Of these two potential returns for the investor, firstly a share of the profits and secondly the capital uplift, most investors in start-up businesses are mainly interested in the capital growth of their investment. They want to invest in your business today when the shares are worth \$1 and sell them in five years time when they are worth \$5 or more.

In theory, you can sell shares in your company to almost anyone but there are legal constraints that you need to be aware of. All companies are required to maintain a register of shareholders and

notify the company registration authorities of the list. Most countries set limits on the number of shareholders a limited company is allowed to have before requiring it to become a Public Limited Company or PLC. The regulations and reporting demands on PLC's are more arduous than for limited companies. Other regulations are designed to prevent money laundering and protect non-sophisticated investors.

Depending on the amount of investment you require, there are many potential groups of equity investors. For small amounts of up to perhaps \$10,000, you are unlikely to attract a professional investor, the amounts do not justify the effort of examining the potential of your company. You would need to sell shares to yourself, your fellow directors, family and friends.

Business Angels invest between \$5,000 and \$250,000. A typical business angel is a businessperson who has made money and is looking to invest it in a small company that they can get involved with and even work in on a part time basis. A business angel therefore is a source of expertise as well as cash. Many business angel networks have been formed to allow them to work together and raise substantial funds for exciting company investments.

Venture capital investment starts at about \$100,000 and goes through to several millions. Venture capital companies are looked at in some detail in the next section but essentially they are professionally run organisations that invest in high growth potential businesses in order to make a capital return. Venture capital organisations often specialise in their investments, some by size of investment, others by industry sector. Between them, they invest in start-ups, buy-outs, mergers and acquisitions and expansion projects.

The final mechanism for equity funding is to float the company on a publicly traded market or stock exchange. The principle is that you offer part of the equity of your company to the public and allow

those shares to be traded freely. The floatation process is complex and time consuming but very good results can be achieved. The first step is to find an investment bank willing to handle the process. They will be recommending your shares to their clients so will look very closely at what you have to offer before deciding to work with you. Together you will then create a prospectus and they will start selling the shares. This will involve a lot of work for you and your team carrying out presentations to fund managers and other potential investors. Once the shares are trading, you will have to work equally hard to keep the share price going up. There are also additional reporting mechanisms that you must adhere to in order to keep the market informed of your commercial results. Raising funds this way is very expensive in terms of fees and management time. Fig 5.5 summarises the equity funding options available depending on the amounts involved.

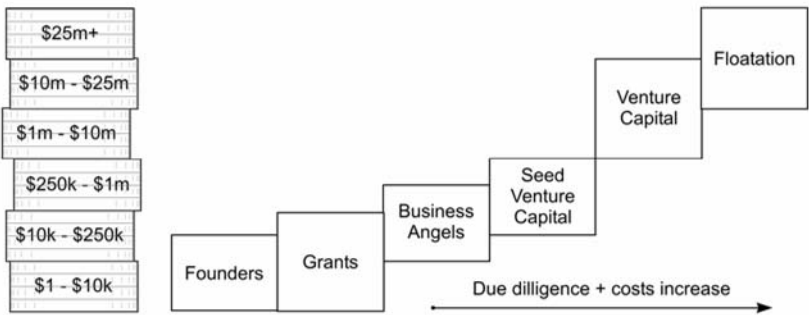


Fig. 5.5. Equity funding options

Stock market floatations can also be used to allow existing shareholders to sell their shares and take their capital growth. Once the shares are trading, existing shareholders can sell their shares at the market rate.

The obvious advantage with equity investments is that there is no capital or interest repayment. In many cases, a hands-on investor

such as a business angel or a venture capital organisation will also add value in terms of expertise, experience and contacts.

There are however disadvantages including the dilution of your original ownership of the business and the loss of flexibility if new shareholders exert any control on the business. The other disadvantages of raising money through equity sale are the legal fees and management time.

5.3 How does venture capital work?

Many start-up companies, particularly companies that are formed to exploit a new technology or to exploit a new market opportunity will at some stage require equity investment. Venture capital is a common choice and so it is worth understanding not only the process of this form of investment, but also the anatomy of the venture capital business itself and what drives it.

The vast majority of venture capital organisations are not the play things of incredibly wealthy business people building empires in true Hollywood fashion, but businesses offering a service to their customers, just like you.

The typical VC firm is a business that offers a good return on investment to large fund managers such as pension funds and trusts. These fund managers spread their investments between the money markets, shares and other vehicles. The VC firm builds a fund by essentially selling shares in it to these customers with the promise to repay them with very high rates of return when the fund closes in say ten years. The best VC firms can provide returns of 40% per annum or more.

Having built a fund, the VC firm then looks for companies to invest the money in that will provide enough capital growth to make good on their promises and take their fee. In order to provide this level of

growth, the VC firm looks for investments that will provide exceptional returns but these are also typically risky.

Investment statistics suggest that for every five investments that a VC firm makes, two will fail completely, two will not live up to expectation and just one will achieve what it promised. The ones that don't live up to expectation, often called the 'living dead', are of no real value and difficult to sell, so it is left to the single achieving company to provide all the value to the fund. The terms of the deals that VC firms make are premised around this assumption and are therefore often very expensive in terms of the equity share they demand for their investment.

At the end of the VC funds life, the capital needs to be extracted from the investments so that the fund's customers can be repaid. All VC deals therefore include consideration for how the funds can be released. This is known as the exit strategy.

What are venture capitalists looking for?

Even though at first sight, venture capital deals can be a very expensive source of funds, there is no shortage of demand and VC firms are often inundated with business plans from people looking for investment. A typical firm might invest in one in a hundred of the companies it looks at. To stand any chance of success you need to understand what they are looking for and how to approach them.

There are many criteria that VC firms use to target their investments. They look for a committed and competent management team, they look for a shared risk and reward, they look for a business plan that is understandable and realistic and they look for an opportunity that is different and unique but that has potential.

Within the management team they want to see vision and enthusiasm tempered by experience and capability. They need to see

that the team is entirely committed to the venture and is realistic about what they can achieve.

The risk and reward of the investment needs to be shared between the VC firm and the management team. Although in reality the VC firm will put up most of the money, they like to see that the management team are investing something too. Even if it is a token gesture, this level of commitment goes a long way to adding confidence. They also want to see that the management team are incentivised to deliver the plan. If the business is a great success, they will benefit financially too.

The business proposition needs to be clear and understandable. The investment needs to be appropriate for the VC firm, it is in their area of expertise and of the right scale. The idea needs to be appealing, logical and realistic.

In most cases the market that the company will exploit needs to be growing too in order to support the growth in value.

To generate sufficient growth however, the business opportunity needs to be unique and different. A 'me too' product that is merely joining a trend of similar ideas is very unlikely to achieve the scale of reward they are looking for. This suggests that the idea needs to be protected through patents or other appropriate mechanisms to safeguard against competition in the market.

Put in priority order; the first thing they look at is the management; secondly they look at the management; thirdly they look at the management; fourthly they look at the market to ensure it can sustain the required growth; and finally they look at the product.



Fig. 5.6. Investment decision priorities

Approaching a VC firm

Given that a VC firm will invest in perhaps one in a hundred business plans it sees, catching their attention can be very difficult. The first thing to note is that just sending your plan in the post and waiting for them to call will almost certainly lead to failure.

At the very minimum, you need to research the market and narrow down your target VCs based on the sector you are in and the type of investment you need. Once you have done that you should call them and talk about your opportunity and needs and ask who to send a plan to. You then have someone to follow up with and with whom to arrange a presentation and so on.

Even this can be difficult. A better approach is to be recommended by someone they know or by someone within the industry that has a position they respect. This is where having good non-executive directors and mentors is really worthwhile. Their standing in the business world and involvement with your company raises your profile making investors more likely to listen to what you have to offer. Professional advisers, even bank managers can also make introductions on your behalf.

Before you start however, make sure that your business plan is ready to be sent out and that you are ready to make presentations. If they do bite, you want to be in a position to respond as quickly as possible.

Put another way, a VC firm is more likely to invest in an A class management team with a B class idea, than a B class management team with an A class idea.

Due diligence

Before any potential investor hands over their money, they will want to take a good look at your business and test the assumptions that you are claiming. The depth of this due diligence exercise will vary depending on the scale of the investment. A relative putting in a few thousand dollars may want to see the plan and have a chat with you over a drink or meal. A VC firm will have something a little more arduous in mind.

A typical due diligence investigation will look at at least four main areas of the business; the finances; the management; the market and the product.

The financial due diligence is likely to involve a review of the historic accounts to ensure that they are accurate and that there are no contentious issues. It will include a review of the financial controls within the business and the management accounting methods used. The forecasts within the business plan together with the assumptions used will be tested and checked. Finally the status and commitment of the other shareholders and potential co-funders will be looked into.

The management team are likely to be subject to interviews, references may be taken up and other checks may be carried out including personal credit histories, even criminal records. For large investments, it is not unknown for private investigators to be hired

to check to see that all the directors are who and what they say they are.

The market analysis could replicate your own studies to confirm the competitive advantage you claim, measure the size of the potential market and make forecasts of the future potential growth. A common approach is to examine similar companies in the sector and use them as a benchmark for your potential.

The product or service you plan to provide will also be scrutinised. Any intellectual property rights will be checked and research on the competition will be carried out. In many cases, independent experts are brought in to examine any new technology and comment on its value.

Preparing for due diligence

Due diligence can take a lot of management time but some of time can be saved by careful preparation from the very first day you start work on your business.

Something as simple as a file which contains copies of all the relevant documents and information concerning the business can make the process considerably easier. You should start this due diligence file as soon as you start your business and put in it, copies of items such as:

- Memorandum and articles of association
- Schedule of shareholders
- Certificates of incorporation and novations (changes of name)
- Yearly accounts
- Property ownership papers or leases
- Employment arrangements including organisation charts, staff lists and benefit schemes
- Directors and senior management contracts and CVs
- Patent filings and proof of other intellectual property rights

- License agreements
- Contracts with suppliers, distributors and large customers
- Commissioned market research reports
- Debts and borrowings
- Insurances
- Regulatory approval certificates

By keeping such a file up to date, you will not only save time later on, but also be able to demonstrate your professionalism to any interest party.

How do they structure a deal?

It is relatively rare for VC firms to buy ordinary shares in a company. Since they are normally putting in the vast majority of the funds, such an approach would dilute the existing shareholders and management almost out of existence. The result of which would not provide the team motivation they need and would also leave them with too much control over the business.

It is much more common for VC firms to spread their investment across a number of share types and even loans in order to arrive at a solution where the founders and management are incentivised, they can make their return and to some extent the investment is protected. The use of preference shares, convertible loans and so on are common in this process.

It is also possible build options for the company to buy back shares from the VC firm as milestones are met and risks reduced. Redeemable shares are used for this purpose.

The process of structuring the deal is a negotiation, so do not be afraid to haggle with them. At the end of the day, everybody needs to be happy with the deal as you all have to work together and be motivated to succeed.

How do you value your company?

Valuing your company is important when raising funds through equity as it sets the price for each share you sell. The implication of this valuation can have a big effect on the ownership of the company. Imagine you need to raise \$100,000. If your company is valued at \$200,000 post investment, you will need to sell 50% of the company to raise the funds. However, if your company is valued at \$250,000 post investment, you only need to hand over 40% of it. Obviously the existing owners would prefer the higher valuation, the new investors would prefer the lower one.

Valuing companies is more of an art than a science. It is a simpler process if your company is established and has a trading history because the real profits you have generated can be used as a guide. If you are just starting and your profits are in the form of forecasts, hopes and dreams there is less real evidence on which to base a valuation.

If you have a trading business that last year made a profit of \$100,000, then a simple valuation method is to compare that profit to interest that you could receive from a saving account. How much would you have to invest in an account to receive interest of \$100,000. The amount is equivalent to the value of the company. So if you could get 5% interest elsewhere, the equivalent value would be \$2m. Another way to look at this outcome is that the value is equal to 20 times the profit. This multiplier is called a price – earnings or PE ratio.

The investor may however consider that their money is far safer in a savings account than in your company and so would want to see a bigger interest rate applied to make up for this risk. They may consider that 10% was a fairer figure to use. This would value the company at \$1m or 10 times the profit.

To settle on a particular PE ratio with your investors is again a process of negotiation but there are benchmarks that you can use. If

similar companies in the sector are achieving PEs of 12, then that is a sensible starting point.

If you are not yet in the position of making profits, but are forecasting to do so in the future then there are other methods you can apply. Economists call this a Net Present Value calculation, it can get quite complex but the example below provides the basic principles.

If you are forecasting to make a profit of \$100,000 next year then using a PE of 15 your value next year will be \$1.5m. Value in the future is however worth less than value today. If I offered you a choice between \$100 today and \$100 in a year's time you would probably take the money today. If I offered you \$90 today or \$100 in a year you might think about it. What amount would I need to reduce today's offer to in order for you to decide to wait? Let us say that it is \$80. Through this process you have decided that \$100 in a year's time is worth \$80 today or put another way you are prepared to wait a year in return for 25% more value (i.e. $\$80 + 25\% = \100). The percentage rate is known as a discount rate and is applied to the future value of companies to derive their value today.

Applying a discount rate

To apply a discount rate to a future value, use the following equation:

Value today = value in the future $\div$ (1 + discount rate)

Applying this 25% discount rate to your future value of \$1.5m, the value of the company today becomes \$1.25m

$$\$1.5\text{m} \div (1+25\%) = \$1.25$$

When the profit is not forecast until two years in the future, the equation becomes

Value today = value in year 2 $\div$ (1 + discount rate)²

$$\$1.5\text{m} \div (1+25\%)^2 = \$0.96\text{m}$$

if the profit is three years out it becomes

Value today = value in year 3 $\div$ (1 + discount rate)³

\$1.5m $\div$ (1+25%)³ = \$0.77m

and so on.

The sums involved in valuing your company are very simple once you have decided on suitable PE ratios and discount rates. Economists and financial analysts use complex formulae to derive these values but at the end of the day the correct value is one that investors are prepared to pay and that owners are prepared to accept.

Exit strategies

There are three basic exit strategies available, all of which have a profound effect on the company and the founders. The preferred exit strategy is for the company to be sold in the form of a trade sale to a larger company.

A trade sale obviously involves the directors and other shareholders having to give up the company. If they would rather the company remained independent, then the second option is for a buy-out. In this scenario, the management or other shareholders raise funds elsewhere to buy the VC firm's shares from them at an agreed price. Sometimes the funds come from another VC firm; this is termed 'refinancing'.

The third option is for the company to float on a stock market. In this way the shares become tradable and the VC simply sells them on the market. This is often not as simple as it sounds however, as the market doesn't like to see original investors selling large quantities of shares, this often drives the price down. For this reason, trade sales are a common exit strategy for venture capital investments.

When entering into any kind of fundraising you need to remember why you set the business up and what your personal plans are for the future. Your fundraising strategy should take this into account.

6 How do you create a financial model?

You will need a financial plan for your business even if you do not need to borrow money or sell equity in your company. The process of creating a financial model is really about planning and understanding the detail of how your business will work and operate. Without a financial model you cannot know what you can afford to spend, what you will need to sell your products for, how much you can pay yourself and your team or even if your business has any chance of remaining solvent.

The first thing to understand about creating a financial model is that it is a team effort involving everybody that will be involved in the running of the business. If you create it in isolation from your team, they will not understand the assumptions you have made and feel that you are imposing targets and restrictions on them without consulting them. Worse still, if you leave it to an accountant to create a plan for you, you will not understand it either. It is essential that you and your team can buy into the plan, its assumptions and areas of criticality.

Fortunately, creating a financial model is actually a very exciting, creative and stimulating experience. In working through the process, you will have many debates and take many decisions that affect the shape of your business and how it will operate.

By far the best way to create the plan is to assemble the team (ensuring that they have enough tea and chocolate biscuits for the task), project the computer display so that everybody can see it, then either using a pre-prepared spreadsheet template or business planning tool, work through the process in an orderly fashion. The

result will be a plan that the whole team understands, believes is achievable and is committed to.

6.1 The basic structure

A financial model consists of a balance between income and expenditure. The income needs to be large enough to cover the expenditure required to generate it and leave some residual profit, either for future investment or distribution to the shareholders.

The income side of the equation consists of sales of products and services and any other income you can generate, such as from licenses that you have sold. The total of this income is known as turnover. The complexity of this side of the equation comes in forecasting what your future sales are likely to be and what prices you can charge.

The first element of the expenditure side of the equation is the cost of sales. This is the cost to you of making and delivering the product, or of providing the service. This should only include the direct cost of providing the product or service and as such could include your manufacturing costs including the shop floor salaries, but should not include your sales and advertising costs or the salaries of salesmen. The turnover minus the cost of sales is your gross margin.

If you look at your gross margin as a percentage of your turnover, you can quickly gain an appreciation for the potential health of your business. If the gross margin is low, say less than 10%, you are not making much money from each sale and you will either have to sell high volumes or the rest of your business will need to be very efficient to allow good profits to be made. A high gross margin is much more likely to lead to a profitable business, providing you can sell enough of them at that price.

The second aspect of the expenditure side of the equation is the operating expenses of the business. Most of this expense is normally divided into departmental headings such as General & Administrative, Sales & Marketing, Research & Development and so on. In addition though, there may also be items of capital expenses, premises costs and third party services.

The turnover, minus the cost of sales, minus the operating expenses is the profit (or loss). Many terms are used to describe this value: Profit, Earnings, Earnings before Interest and Tax (EBIT), even Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA) but profit is what we are really talking about.

When all these values are presented in a way that shows your income and expenses, resulting in a profit or loss, the resulting table is known as a Profit & Loss statement or P&L for short. The table on the following page shows a typical example of a 5 year P&L for a start-up technology business.

A P&L account like this shows you how profitable the business is going to be, but it assumes that the revenue and expenditure occur at the same time, in other words it doesn't tell you what your cash flow is going to be.

Table 6.1. Example profit and loss account

P & L Account	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
\$000's					
Unit Sales	0	0	11	24	48
Sales Revenue	0	0	340	679	1,267
Services Revenue	0	210	270	440	590
Turnover	0	210	621	1,143	1,905
Cost of Sales	0	42	40	153	195
Gross Margin	0	168	570	966	1,662
Gross Margin (%)		80%	92%	85%	87%
G&A	22	93	125	235	310
Sales & Mark.	12	110	210	256	459
R&D	45	68	168	179	254
Total Expenses	79	271	503	670	1,023
Profit/(Loss)	(79)	(103)	67	296	639

To do that, financial models also include a cash flow statement. To provide a very crude example, the table below shows the yearly cash flow for the P&L example above.

Table 6.2. Example cash flow statement

Cash Flow Forecast	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
\$000's					
Profit/(Loss)	(79)	(103)	67	296	639
Balance brought forward	0	(79)	(182)	(115)	181
Cash Balance	(79)	(182)	(115)	181	820

The affect of this is dramatic and shows that this business, although making a profit in year 3, does not provide a positive return until year 4. It also shows that the business needs to borrow or raise investment of nearly \$200k to remain solvent.

Balance sheets are also a common financial tool for reporting and examining a company's health. A balance sheet is different from the P&L and Cash Flow as it provides a snap shot of the company's financial position at a specific point in time. The specifics of balance sheet reading are beyond the scope of this book, but put simply, it shows what the company owns (assets) and what it owes (liabilities and net worth). The bottom line of the balance sheet must always balance so that the assets exactly equal the liabilities and worth. Balance sheets can be used to examine how the company uses its assets, how much value is tied up in stock, how well the company collects its revenues and whether the company is solvent.

6.2 Business planning tools

Although there are many software packages available for business planning, a common spreadsheet tool is more than adequate for building your financial model. You are likely to find building your own model with a spreadsheet much more enlightening as you have access to all the calculations and methods.

The worked example that follows uses an MS Excel template which is available at www.hi-consulting.com. By using a template like this one, you can start planning your business straight away but once you have gained experience, you can adapt and grow it to suit your needs. Alternatively you can create your own model, based on the same principles described here.

Mastering spreadsheets

If you are not an experienced spreadsheet user, you should consider using this financial modelling exercise to become more competent. As a business person you will find that you start using spreadsheets almost as much as you use a word processor or presentation package.

It may even be worth considering a course or good tutorial book to get you started. Once mastered, spreadsheets will help you calculate and model all sorts of business situations from accounts to sales forecasting and much more.

The model consists of a profit and loss account and cash flow statement. The data for these sheets comes from ten additional sheets that are used to calculate costs for different parts of the business model. The ten detailed sheets are:

- Sales Summary – used to calculate a sales forecast and future turnover.
- Cost of Sales – used to calculate the costs of fulfilling the sales.
- General & Administrative – used to calculate the general and management costs of the business.
- Sales & Marketing – used to calculate the costs of the sales and marketing department.
- Research & Development – used to calculate the costs of the R&D department.
- Operations – this sheet contributes towards the cost of sales and consists of the manufacturing or service delivery department.
- Headcount – used to enter employees into the business model.
- Salaries – used to set the salary level for all the employees.
- Capital Expenses – used to calculate the costs of equipment purchased by the company.

- Facilities – used to calculate the costs of offices and premises for the company.

6.3 Building the model

This section will take you through the process of building a financial model in a logical and step by step process. To work through this process we need a fictitious example business.

NewCo Ltd. is a start-up company with a new patented technology for using gamma waves to inspecting canned food products. The new technology was developed by a university researcher who has decided to form a company to exploit the idea. A working prototype exists but a further year of research and development is required before the product can be launched.

The new gamma technology is capable of detecting small objects in canned food such as pieces of bone, glass, nails, and even small congealed lumps within the food mix. The new product will compete with x-ray and magnetic detection machines but due to the lower power requirements, will be smaller and safer than x-ray machines and more accurate than magnetic detectors.

Currently x-ray inspection machines sell for \$50k and magnetic machines sell for \$20k. The manufacturing cost of the new machine is estimated to be \$10k.

The UK has been selected as the first target market opportunity due to new legislation which will force food manufacturers to inspect every canned product for human consumption. Within the UK, the company has identified baby food, canned soup and canned preserves as key launch markets. Within these niches, the total potential market size is 10,000 units. This total consists of 1,000 for baby food, 3,000 for soup and 6,000 for preserves. Similar markets exist in mainland Europe totalling 100,000 units.

The directors think that venture capital will be required to pay for the development and sustain the company until sales can be made. They don't however know how much investment they need or what the return on investment is likely to be. They need a financial model.

Forecasting sales

The very first part of the process is to estimate the sales that are likely to be made and over what time period they can be achieved. Rather than simply guess, various methods have been developed to apply some logic to the process.

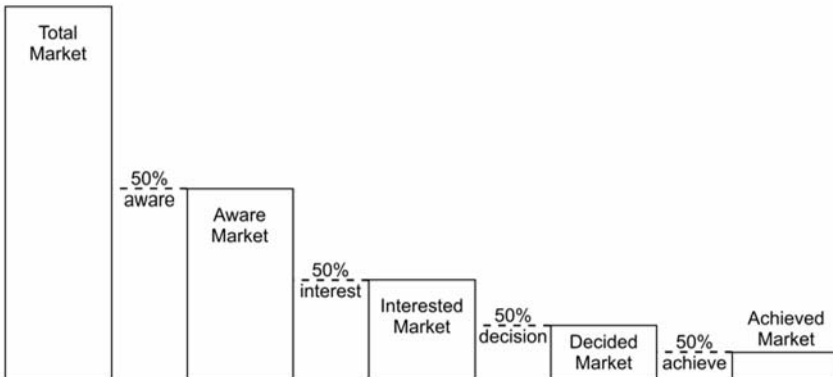


Fig. 6.1. The AIDA model

One such method is the AIDA model. AIDA is an abbreviation of:

- Aware – what proportion of the market can you make aware of your product.
- Interest – of these, how many will be interested in it.
- Decide – of these, how many will decide to buy from you.
- Achieve – of these, how many will you actually achieve a sale from.

For each of the components of the AIDA model you provide a percentage based on your feelings about the market need and the strength of your product.

The table below shows how the AIDA model is applied to our market sizes. The awareness drops as the target market sizes get larger as it will be more difficult to get the message out to the larger groups. The interest also changes between the groups due to the severity of the need dropping. It is more serious to find a contaminant in a can of baby food than in a jar of jam. The decide factor is high in all cases as we are convinced of the advantages of the product over the competition. The achieve factor is very high because the customers are largely private companies with resources (when selling into markets that require committee decisions such as public services, this factor will be lower).

Table 6.3. Using the AIDA model to predict sales for the first two products

		Baby Food		Soup		Preserves
Market Size		1,000		3,000		6,000
Aware %	50%	500	50%	1,500	40%	2,400
Interest %	50%	250	40%	600	30%	720
Decide %	75%	188	75%	450	75%	540
Achieve %	90%	169	90%	405	90%	486
Total Sales		169		405		486

The result is initially surprising, of the total market size of 1,000 baby food units, the company will sell just 169 of them. Note that in the largest market the share is less than half this level. Achieving large shares of large markets is extremely difficult.

We now know how many products we are likely to sell, but these sales will be spread out over a period of some years. The next task is to decide on an adoption curve which will show us when these sales occur.

In the following table a fairly smooth adoption curve is used to spread the sales over a five year period.

Table 6.4. Sales penetration and forecasting

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales Rate	15%	22%	26%	22%	15%
Baby Food	25	37	44	37	25
Soup	61	89	105	89	61
Preserves	73	107	126	107	73

We now have an estimate of how many of each product we will sell into each market over a five year period from their launch.

The last thing to decide before we can put these sales into the financial model is to decide when the various products are to be launched. We know the first year will be taken up developing the product, so adopting a strategy of launching within one market at a time, we decide to launch within the baby food market in year 2, soup in year 3 and preserves in year 4.

The following table shows the resulting sales forecast.

Table 6.5. Sales forecasts

	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5
Unit Sales					
Baby Food	0	25	37	44	37
Soup	0	0	61	89	105
Preserves	0	0	0	73	107
Total Sales	0	25	98	206	249

We now have a sales forecast for the business. We can now use this to create a revenue forecast by setting a price for the product. Setting the price should not simply be a process of adding a factor to the cost of manufacture, rather a process of setting a price which the market will be prepared to pay. In this case we can set a price higher than the magnetic machines because we offer superior performance, but lower than the x-ray machines to provide an incentive for our customers. Let's say we will charge \$30k for the first product within the baby food market. We will also set prices of

\$27k and 25K in the next two markets since the need is less and we need to improve their incentive to buy from us.

Setting the price

Deciding what to charge for your product or service is not simply about adding a margin to your costs, although you need to ensure that your costs are covered. Setting the price is about finding a value that your customers are willing to pay. To find this number, you could put a value on the problem you are solving, set your price according to the competition or similar products on the market, or simply asking them what they would be prepared to pay while you are doing your market research.

In this example we have set different prices for different markets, this is easy to do where the product is tailored to suit each market, you can use different model numbers for example to differentiate them. This becomes more difficult if the product is common between the markets.

The result is the revenue or turnover forecast for the business shown below.

Table 6.6. Sales revenue forecast

	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr 5
Revenue					
Baby Food	0	759	1,114	1,316	1,114
Soup	0	0	1,640	2,406	2,843
Preserves	0	0	0	1,823	2,673
Turnover	0	759	2,754	5,544	6,630

The following screen shot illustrates this data entered into a spreadsheet.

	A	B	C	D	E	F	G	H	I	J	K	L	M
		NewCo Ltd.		Sales Summary									
1													
2													
3													
4													
5													
6	1												
7	2												
8	3												
9	4												
10	5												
11	6												
12	7												
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176	171												
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178	173												
179	174												
180	175												
181	176												
182	177												

Using the average price for each category, you can forecast your sales and turnover in the same way as for a product based company.

Cost of sales

Now that we have a sales forecast it is possible to build the cost of providing those sales into the model. The first thing to consider is the manufacturing cost. The estimate is that units can be manufactured for \$10k. We could set this value across all three products or we could anticipate that costs are likely to fall as the volumes go up. For now we will err on the side of caution and keep the costs constant.

In addition to the manufacturing costs, the product needs to be delivered and installed. We estimate that this will cost \$2,000 per unit.

Applying both these costs, we can derive the forecast cost of manufacture and installation, as illustrated in the following table.

Table 6.7. Completed cost of sales

	Year 1	Year 2	Year 3	Year 4	Year 5
	\$000's	\$000's	\$000's	\$000's	\$000's
Build Costs					
Baby Food	0	253	371	439	371
Soup	0	0	608	891	1,053
Preserves	0	0	0	729	1,069
Installation/delivery					
Baby Food	0	51	74	88	74
Soup	0	0	122	178	211
Preserves	0	0	0	146	214
Total Costs	0	304	1,175	2,471	2,992

In addition to these raw costs we should add some provision for warrantee work. This is applied as a percentage of sales revenue and is an estimate of the cost of mending products when they fail in service. It is of course possible to add a sales line to show the sale of extended warrantee packages as another product. If you do this, remember to apply the AIDA model to this sales line too. How many customers will be aware, interested, decide and actually buy the warrantee package. We will assume a warrantee cost of 2% of sales revenue.

Another common element within the cost of sales calculation is royalty payments for intellectual property belonging to third parties. Let us assume that in this case, the University retains the intellectual property behind the Gamma technology and licenses it to NewCo in return for a royalty of 2.5% of sales. This cost line would also appear in the cost of sales sheet.

The remaining element within the cost of sales calculation is the running of the manufacturing department together with the salaries of the work force required to build and install the product.

To start building these costs, it is necessary to first consider the headcount of the manufacturing department. The department is to be run by a Director of Operations and in addition will require engineers and quality managers. Examining the sales summary, we could agree that we need to staff the department as shown in the following table. These numbers are entered into the headcount sheet of the model.

Table 6.8. Manufacturing head-count

Headcount	Year 1	Year 2	Year 3	Year 4	Year 5
Manufacturing					
Dir. of Operations	1	1	1	1	1
Quality Manager	0	0	1	1	2
Engineers	0	1	2	4	6
Total	1	2	4	6	9

Now we know the numbers of people we need, we need to decide what to pay them. If we pay the Director of Operations \$60k, the Quality Managers \$40k and the Engineers \$30k per year, the costs will be those in the next table. These salary levels are entered into the Salaries sheet of the model.

Table 6.9. Manufacturing salary costs

Salaries	Year 1	Year 2	Year 3	Year 4	Year 5
	\$000's	\$000's	\$000's	\$000's	\$000's
Manufacturing					
Dir. of Operations	60	60	60	60	60
Quality Manager	0	0	40	40	80
Engineers	0	30	60	120	180
Total	60	90	160	220	320

We now need to turn our attention to the rest of the manufacturing department's costs. In addition to the raw salary costs, there are likely to be employer's tax, pension scheme contributions, life and medical insurance premiums and recruitment costs. Once all these are added the costs jump considerably as illustrated below.

Table 6.10. Manufacturing staff costs

	Year 1	Year 2	Year 3	Year 4	Year 5
Staff Costs	\$000's	\$000's	\$000's	\$000's	\$000's
Headcount	1	2	4	6	9
Salaries	60	90	160	220	320
Employment Tax	7	10	18	24	35
Pension	5	7	12	17	24
Life Insurance	1	5	10	13	19
Private health	2	4	7	11	16
Recruitment	0	5	10	10	15
Total	74	121	216	295	430

Estimates can also be made about the travel and subsistence costs that these employees will generate in the course of their job.

In addition to the human resources required to manufacture the products, the department is likely to require budgets for systems development, consumables and even production consultants. These should also be added to the Manufacturing sheet.

Knowing exactly what to add here is a perfect example of how difficult creating such a plan in isolation becomes. If you work as a team, the Director of Operations will be able to tell everybody what is needed and justify the estimates. The resulting model screen shot shows the final result for the Manufacturing sheet.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.											
2													
3													
4													
5													
6	1	Staff Costs											
7	2	Headcount											
8	3	Salaries											
9	4	Nil											
10	5	Pension											
11	6	Life Insurance											
12	7	Private health insurance											
13	8	Recruitment costs											
14	9	Total											
15	10												
16	11	Travel & Subsistence											
17	12	Travel											
18	13	Subsistence											
19	14	Total											
20	15												
21	16	General											
22	17	Systems Development											
23	18	Quality Control											
24	19	Production Tech. Development											
25	20	Production Consultants											
26	21	Total											
27	22												
28	23	Total Operations											
29													

Fig. 6.3. Manufacturing department costs

The Cost of Sales side of the model is now complete. The following screen shot shows the complete Cost of Sales sheet.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.											
2													
3													
4													
5													
6	1												
7	2												
8	3												
9	4												
10	5												
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24	19												
25	20												
26	21												
27	22												
28													

		Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5
		\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's
Build Costs										
Baby Food		0	0	0	0	0	253	371	439	371
Soup		0	0	0	0	0	0	508	591	1,053
Preserves		0	0	0	0	0	0	0	729	1,069
Installation/delivery										
Baby Food		0	0	0	0	0	51	74	88	74
Soup		0	0	0	0	0	0	122	178	211
Preserves		0	0	0	0	0	0	0	146	214
Total		0	0	0	0	0	304	1,175	2,471	2,992
Manufacturing Dept.		19	24	29	39	112	177	308	463	627
Warranty Costs		0	0	0	0	0	15	55	111	133
Royalties		0	0	0	0	0	19	69	139	166
Total Cost of Sales		19	24	29	39	112	515	1,607	3,183	3,917
Revenue		0	0	0	0	0	759	2,754	6,544	6,630
Gross Margin		-19	-24	-29	-39	-112	245	1,147	2,362	2,713
Gross Margin (%)							32%	42%	43%	41%

Fig. 6.4. Cost of sales

Sales and marketing

The next logical thing to look at is the sales and marketing effort and resources that will be required to achieve these sales. In estimating these resources we need to remind ourselves of the AIDA values we used in estimating the sales. We now need to create a team that is capable of delivering these percentages.

The process is very similar to our estimation of the manufacturing department's costs. First we need to look at the sales and marketing headcount. The department is to run by a Director of Marketing and contain sales managers, sales persons and sales administrators. Entering the numbers and salaries into the headcount and salaries sheets, the model creates the employment costs shown in the table below.

Table 6.11. Sales and marketing staff costs

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales & Marketing Staff Costs	\$000's	\$000's	\$000's	\$000's	\$000's
Headcount	1	2	4	5	8
Salaries	60	100	160	195	295
Employment Tax	7	11	18	21	32
Pension	5	8	12	15	22
Life Insurance	1	6	10	12	18
Private health	2	4	7	9	14
Recruitment costs	0	5	10	5	15
Total	74	133	216	257	397

It is often the case that sales staff are paid a relatively low salary which is supplemented by commission on sales. A good spreadsheet model will allow you to do this, but for simplicity we will simply pay a salary for now.

The department is also going to require marketing budgets for promoting the company and its products. This could include provision of a website, advertising spend, attending exhibitions and client entertainment.

Research & Development

The Research and Development department is the next logical step. The process is exactly the same as for the manufacturing and sales and marketing departments, first we decide on the staffing required to develop and continue to improve the product, and then add additional costs such as project budgets, advisory panel charges, consultancy costs and prototype trial expenses.

The resulting screen shot shows the completed Research and Development sheet.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.	Research & Development										
2			Year 1										
3			Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5		
4			\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's		
5													
6	1	Staff Costs											
7	2	Headcount	2	2	2	2	2	3	3	4	4		
8	3	Salaries	25	25	25	25	100	135	135	170	170		
9	4	Nil	3	3	3	3	11	15	15	19	19		
10	5	Pension	2	2	2	2	8	10	10	13	13		
11	6	Life insurance	0	0	0	0	2	8	8	10	10		
12	7	Private health insurance	1	1	1	1	4	5	5	7	7		
13	8	Recruitment costs	0	0	0	0	0	5	0	5	0		
14	9	Total	31	31	31	31	124	178	173	224	219		
15	10												
16	11	Travel & Subsistence											
17	12	Travel	1	1	1	1	4	6	6	8	8		
18	13	Subsistence	1	1	1	1	2	3	3	4	4		
19	14	Total	2	2	2	2	6	9	9	12	12		
20	15												
21	16	Project costs											
22	17	projects	10	10	10	10	40	50	50	60	70		
23	18	Advisory panel		5			5	5	10	10	15		
24	19	Consultancy					0	10	10	20	20		
25	20	Trails		5	5	5	15	20	30	30	35		
26	21	Total	10	20	15	15	60	85	100	120	135		
27	22												
28	23	Technical											
29	24	Consumables	1	1	1	1	2	3	3	4	4		
30	25	Subscriptions	0	0	0	0	0	0	0	0	0		
31	26	Total	1	1	1	1	2	3	3	4	4		
32	27												
33	28	Total Research & Development	43	53	48	48	192	276	286	360	370		
34													

Fig. 6.5. Research and development

General and administrative costs

The General and Administrative department costs are the last of the headcount departments to add because it is only now that we have defined the operational parts of the business that we can estimate what will be required to run the company.

Again, we start with the headcount. This time we are looking to include senior management positions such as a Managing Director and Finance Director. We will also need to consider resource for book keeping, general administration and personal assistants.

Up to this point the headcount is set to start at 4 and grow to 21 people in year 5. We need a Marketing Director straight away but can probably wait until year 4 until we need to recruit a Finance Director. With just 4 members of staff we could also do without an administrator until year 2 and could probably cope with a part time book keeper until year 2 as well. As for a PA for the Managing Director, let's assume they can wait until year 5 before needing that

level of support. The resulting total company headcount is shown in the table below.

The General and Administrative salary costs are brought into the G&A sheet in the same way as the other departments.

Table 6.12. Total company headcount

	Year 1	Year 2	Year 3	Year 4	Year 5
General & Admin.					
Managing Director	1	1	1	1	1
Finance Director	0	0	0	1	1
Book Keeper	0.2	0.5	1	1	1
Administrator	0	1	1	1	1
MD's PA	0	0	0	0	1
Total	1.2	2.5	3	4	5
Sales & Marketing					
Marketing Director	1	1	1	1	1
Sales Manager	0	1	1	1	2
Sales Persons	0	0	1	2	3
Administrator	0	0	1	1	2
Total	1	2	4	5	8
Research & Dev.					
Technical Director	1	1	1	1	1
Senior Engineers	1	1	1	1	1
Design Engineers	0	1	1	2	2
Total	2	3	3	4	4
Manufacturing					
Dir. of Operations	1	1	1	1	1
Quality Manager	0	0	1	1	2
Engineers	0	1	2	4	6
Total	1	2	4	6	9
Headcount Total	5.2	9.5	14	19	26

The additional expenditures that are required in this department include all the general business expenses including:

- Commercial, product and liability insurances.
- Stationary and printing costs.

- Postage, telecoms, information technology and sundry equipment such as staplers, printers and so on.
- Legal and accountancy fees.
- Fees for non-executive directors.

Some of these can be estimated on a cost per employee basis. For example you might estimate that each employee will make \$500 worth of phone calls each year. The model can automatically calculate this based on the headcount.

Premises costs also need to be included in the general and administrative costs sheet. Start-up businesses sometimes find difficulty securing premises as property owners often require large deposits and references from new tenants. There is also the potential problem of securing enough space to grow into but not making use of it all in the early years. Managed offices can be a very good solution to this problem. In this scenario, the company can take often very smart office space on a per desk basis. As the company grows, or shrinks, space can be added or released. Managed offices also provide services such as a front desk reception, telephone answering and use of meeting rooms which can be very useful for start-up companies.

For this example we will assume the company takes managed offices consisting a mix of clean office and small manufacturing space at a cost of \$5,000 per employee per year.

Capital expenditure

The last sheet we need to complete before the model is complete is the Capital Expenditure sheet. In this sheet we enter costs for all the equipment, tooling and other fixed assets that the company will buy.

This expenditure is normally kept on a separate sheet rather than mixed in with the departmental costs because when you calculate

your profit for tax purposes, these items cannot be counted against your income in one go. They need to be depreciated over a period of years. Your accountants will help you calculate depreciation when they prepare your annual accounts.

The cost estimates are entered into the sheet in the normal way. The following screen shot illustrates the completed sheet.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	NewCo Ltd.		Capital Expenditure										
2													
3													
4													
5													
6	1	Cost of Goods		Q1	Year 1				Year 1	Year 2	Year 3	Year 4	Year 5
7	2	Tooling		\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's
8	3	Total											
9	4	Manufacturing											
10	5	Test Equipment											
11	6	QC Equipment											
12	7	Total											
13	8	General & Administrative											
14	9	IT Hardware											
15	10	IT Software											
16	11	Networking											
17	12	Miscellaneous											
18	13	Total											
19	14	Sales & Marketing											
20	15	IT Hardware											
21	16	Car leases											
22	17	Exhibition Equipment											
23	18	Total											
24	19	Research & Development											
25	20	IT Hardware											
26	21	Development Software											
27	22	Development Equipment											
28	23	Test Equipment											
29	24	Total											
30	25												
31	26	Capex Total											
32													

Fig. 6.6. Capital expenditure

Profit and loss

Now that all the estimates are made, we can take a look at the profit and loss account and see how our business is shaping up.

The following screenshot shows the results so far.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.	Profit & Loss										
2			Year 1										
3			Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5		
4			\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's		
5													
6													
7	1	Unit Sales	0	0	0	0	0	25	98	206	249		
8	2												
9	3	Sales Revenue	0	0	0	0	0	759	2,754	5,544	6,630		
10	6												
11	7	Turnover	0	0	0	0	0	759	2,754	5,544	6,630		
12	8												
13	9	Cost of Sales	19	24	29	39	112	615	1,607	3,163	3,917		
14	10												
15	11	Gross Margin	-19	-24	-29	-39	-112	245	1,147	2,382	2,713		
16	12												
17	13	Operating Expenses											
18	14	G&A	53	41	41	61	197	289	342	464	579		
19	15	Sales & Marketing	19	19	34	44	117	219	318	372	541		
20	16	R&D	43	53	48	48	192	278	286	360	370		
21	17	Capex	21	2	17	20	60	86	89	107	122		
22	18												
23	19	Total Expenses	136	115	140	173	566	870	1,035	1,303	1,611		
24	20												
25	21	Operating Profit(Loss)	-166	-140	-170	-213	-677	-625	112	1,058	1,101		
26	22												

Fig. 6.7. Profit and loss

The results are encouraging, the business becomes profitable in the third year and goes on to make strong profits after that point.

Cash flow

Now for the scary bit, let's take a look at the cash flow to see what kind of investment is required to get this business off the ground.

Figure 6.8 shows the cash flow sheets before any investment is added.

The cash flow shows a negative bank balance all the way through to year 4, with a low point of over \$1.3m in year 2. This gives us an idea of the investment the company will need.

Remembering that there is a cost associated with raising finance of up to 5% which is needed for legal fees and due diligence work, if we raise \$1.4m that will keep the bank balance positive throughout the life of the plan as can be seen in Figure 6.9.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.	Cash Flow										
2			Year 1										
3			Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5		
4			\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's		
5													
6													
7	1	Operating Profit/Loss	-156	-140	-170	-213	-677	-625	112	1,068	1,101		
8	2												
9	3	Corporation Tax											
10	4	Loss to carry forward	0				-677	-1,302	-1,180	-132	0		
11	5	Taxable Profit					0	0	0	0	970		
12	6	Taxation Paid					0	0	0	0	291		
13	7												
14	8	Cash Outflow before Financing	-156	-140	-170	-213	-677	-625	112	1,068	810		
15	9												
16	10	Other Income											
17	11	Grants					0						
18	12												
19	13	Financing											
20	14	Equity Investment					0						
21	15	Fundraising costs	0	0	0	0	0	0	0	0	0		
22	16												
23	17	Loans											
24	18	Loan capital received					0						
25	19	Loan capital repaid					0						
26	20	Net debt	0	0	0	0	0	0	0	0	0		
27	21	Interest paid	0	0	0	0	0	0	0	0	0		
28	22												
29	23	Net Cash Inflow from Financing	0	0	0	0	0	0	0	0	0		
30	24												
31	25	Change in Cash Balance	-156	-140	-170	-213	-677	-625	112	1,068	810		
32	26	Balance brought forward	0	-156	-295	-485	0	-677	-1,302	-1,180	-132		
33	27												
34	28	Cash Balance	-156	-295	-465	-677	-677	-1,302	-1,190	-132	679		
35													

Fig. 6.8. Cash flow

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.	Cash Flow										
2			Year 1										
3			Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5		
4			\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's		
5													
6													
7	1	Operating Profit/Loss	-156	-140	-170	-213	-677	-625	112	1,068	1,101		
8	2												
9	3	Corporation Tax											
10	4	Loss to carry forward	0				-677	-1,302	-1,180	-132	0		
11	5	Taxable Profit					0	0	0	0	970		
12	6	Taxation Paid					0	0	0	0	291		
13	7												
14	8	Cash Outflow before Financing	-156	-140	-170	-213	-677	-625	112	1,068	810		
15	9												
16	10	Other Income											
17	11	Grants					0						
18	12												
19	13	Financing											
20	14	Equity Investment	1,400				1,400						
21	15	Fundraising costs	70	0	0	0	70	0	0	0	0		
22	16												
23	17	Loans											
24	18	Loan capital received					0						
25	19	Loan capital repaid					0						
26	20	Net debt	0	0	0	0	0	0	0	0	0		
27	21	Interest paid	0	0	0	0	0	0	0	0	0		
28	22												
29	23	Net Cash Inflow from Financing	1,330	0	0	0	1,330	0	0	0	0		
30	24												
31	25	Change in Cash Balance	1,174	-140	-170	-213	653	-625	112	1,068	810		
32	26	Balance brought forward	0	1,174	1,035	865	0	653	28	140	1,198		
33	27												
34	28	Cash Balance	1,174	1,035	865	653	653	28	140	1,198	2,009		
35													

Fig. 6.9. Revised cash flow

The business model works but now we can use it to develop different scenarios and optimise our strategy.

Balancing the equation

At this stage it is absolutely imperative to bring the team together for the discussion. We are going to look at the business proposition to see if it delivers what an investor would expect and then make adjustments to our strategy to try to improve the model. If new assumptions are made that the team do not agree with, it will be very difficult to keep everyone motivated and bought into the plan.

Looking at the value first, using the valuation techniques described in the previous chapter, the company will have a value in year 5 of \$5.3m and a discounted value today of \$3.1m. This is a capital uplift of 1.7 times.

To raise \$1.4m today would require selling 45% of the equity. This might be reasonable but the capital uplift is likely to be too small to attract a venture capitalist.

The problem is that the company appears to stop growing in year 5. This is caused by the first two markets starting to decline and not being replaced by the company entering newer larger markets.

Remember that in addition to the UK opportunity, there was also a mainland European market. Perhaps the company needs to plan to enter this market in year 4 or 5 instead of the jam jar market in the UK?

Looking again at the sales summary, if we swap the UK preserves market for the European baby food market which has a market size of 10,000, even if we maintain slightly pessimistic AIDA factors compared to the UK market, the turnover in years 4 and 5 grows substantially.

But we can't just go changing sales like this without considering the impact on the manufacturing and sales and marketing teams. We need to balance the change with increases in resources to allow them to achieve these new targets.

After the necessary changes, the new profit and loss account looks like the next screen shot.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		NewCo Ltd.											
2													
3													
4													
5													
6													
7	1	Unit Sales											
8	2												
9	3	Sales Revenue											
10	6												
11	7	Turnover											
12	8												
13	9	Cost of Sales											
14	10												
15	11	Gross Margin											
16	12												
17	13	Operating Expenses											
18	14	G&A											
19	15	Sales & Marketing											
20	16	R&D											
21	17	Capex											
22	18												
23	19	Total Expenses											
24	20												
25	21	Operating Profit/(Loss)											
26	22												

Fig. 6.10. Revised profit and loss

The value of the required investment has remained the same at \$1.4m as the additional costs are committed during year four and funded from the profits made then. The value of the company at year 5 has however grown to \$12m.

The discounted value of the company today has also risen to \$6.8m. To raise the funds the company requires would now require just 21% of the shares. However if a venture capitalist wanted to make a return of 4 times their investment, they would be looking to acquire 47% of the company.

Now it is a matter of negotiation, but now the directors of the company understand how much money they need and what the potential returns could be. They have all contributed to developing the plan and know what each of them has to achieve to deliver it and with what resources.

7 How do you write a business plan?

If you don't know where you are going, any road will take you there. When people talk about business plans, generally they are referring to specific documents that are used to convince investors or bankers to put resources into the business. This is certainly one use of a business plan, but not the only use. Business plans can be used to attract key employees or to apply for regional development support for example. The fundamental reason for creating a plan though, is to follow it to your intended goal.

This may seem an obvious statement to make, but too many plans are created, used to raise finance and are then stored on a shelf, never to be looked at again. Your business plan should set out the route from today to where you want your business to be in three to five years time. More importantly, it says how you are going to achieve it and sets out milestones by which you can measure your performance along the way. A good business plan therefore, becomes essential and continuous reading as the business unfolds. It does not remain static, it is a living document that is continuously updated as your knowledge of the market grows and the opportunities unfold.

When is a business plan not a business plan?

When you create a business plan and circulate it to raise investment interest, you need to be very careful that the document does not unwittingly become a prospectus. A Prospectus is a legal definition of a document that offers investment opportunities. In order to protect the general public from fraudulent or misleading invitations to invest, the

law sets down rules and safeguards to control what these documents contain. If you circulate your business plan to more than a few people it could become a prospectus in the eyes of the law.

Various requirements are made of a prospectus and investors can sue authors if they lose money and find that statements made in the document were un-justified. Issuing a prospectus that does not comply with the law is also a criminal offence. Ask your lawyer for advice about the local law for investment documents.

These issues do not affect you if you are only sending copies of your plan to banks and financial institutions. If however, you send copies to accountants or financial intermediaries, they may pass them on to their clients. Make sure you know and restrict the use of your document unless you are happy that it complies with the legal requirements.

Number each copy of your document and do not create large numbers of them. Instruct the recipient and print in the document a statement prohibiting its copying and further distribution.

Make it clear on the front of the document that it is a business plan or information memorandum and not an invitation to invest. Actually say that potential investors should take professional advice and are expected to make further enquiries.

Finally, don't set out a clear price for shares or include a subscription form.

Writing the business plan, like creating your financial model, should be a team effort. The plan can only be achieved if the team believes in it and is committed to its success. By necessity, someone will need to take charge in its production, but it should be 'owned' by the whole team.

7.1 What should your business plan contain?

Very many books, pamphlets and websites are available that suggest structures and layouts for business plan documents. There are some aspects that are desirable and others that are optional, but actually there are no hard and fast rules. The best set of headings is the one that best tells the story of your business. The plan should flow naturally and lead the reader through your assumptions to its logical conclusion.

As a general guide, most business plan document will contain the following core sections:

- Executive summary
- The market
- The product or service
- The management team
- The business operations
- Financial projections
- Financial requirements
- Appendices

The order in which they appear will vary from one business to the next. In some situations it may make more sense to describe the market before the product, in others, the logical order is the opposite. Think about how you structure your arguments when you are telling someone about your business, the order with in which you explain your opportunity verbally could be matched in the text of your plan.

The market

You need to set out the real commercial opportunity that you have identified for your business. As a start-up, typically you will not have a track record of market sales to describe, but you can set out the market conditions you expect and how you are different from the existing incumbents. You will draw on a lot of the answers you

developed when analysing your business opportunity back in chapter one. Make sure the reader understands the problem that your company is going to solve for your customers.

Define the market sector in terms of its size, its performance and characteristics. Describe the customer groups you have identified and set out the scale of the opportunity. Describe the industry characteristics too, who are the competition, how you will compete with them and what the main barriers to entry are.

Finally describe your marketing approach and strategy. If you have segmented the market, describe the first few segments and briefly justify their choice and order.

As you describe the market, you may want to refer to documented evidence or plans you have created. Copies of these can be included in the document appendices.

The product or service

Describe your solution to your customers' problem in clear and plain language, being careful not to over-hype your description. You should however emphasise the unique selling points and the competitive edge you expect to achieve. If the offering is technically orientated, this will be essential as the readers are likely to be non-specialists. Describe the current state of the offering, it may be that you have a prototype, some early versions in trial or that you are ready to go to manufacture.

Describe what intellectual property rights might exist and any that are already secured. If you have patents or trade marks, include the documents in the appendix and refer to them.

You should also describe your pricing strategy. How much does it cost you to make and provide the offering and what do you intend to charge for it. If there are future revenues from consumables,

service packages or upgrades, describe the costs and earnings you anticipate.

Your approach to future product development can also be described here. This might include your vulnerability to competing technology and how you will protect your position. It might also include the development of your own technology to create second generation products or other applications.

The management

As you know, the management team is an essential part of any investment decision and is critical to your business' chances of success. This section of the plan is used to convince the reader that you have the right team to convert the plan into reality. This might include descriptions of both the board and the executive management team.

Each key member of the team should be introduced in the plan document with a paragraph describing their skills, experience and responsibilities within the company. Try to keep the descriptions concise within the main document but include full CVs in the appendix. An organisational plan is a good way of quickly showing the structure of the management team.

If you have gaps in the team, describe the role and your strategy to fill the post. It may be that you don't need the position filled until other milestones are reached, there is no harm in showing how the management will grow as the company develops.

Describing your team should also include those outside the organisation that you rely on. You should list your advisers such as your auditors and accountants, lawyers, intellectual property agents, even your bankers.

The business operations

This section describes how your business will operate. How it will make the products or provide the service. These should be described briefly at first to provide an overview then point the reader to further details in the appendix.

Describe any quality systems that are in place or planned and what certifications are required for the product or service.

If you have not already explained it elsewhere, describe the company's approach to research and development and how improvements will be made to the offering in the future.

The corporate objectives can also be described here. Set out the milestones by which you will measure the business' success and if relevant set out the intended exit strategy and timescale for investors to receive a return on their investment.

The financial projections

If you have created a financial model, the assumptions and highlights should be described in the business plan, perhaps even including a profit and loss account within the body of the document. The full model should be provided in the appendix.

For each major assumption within the financial model, such as the sales forecasts, you should describe and justify the approach you have taken to arrive at the numbers. Use graphs and tables to make it easier for the reader to understand the forecasts.

If you are using the document to raise investment interest, it might be worth using an external accountant to verify the model. This will add confidence in the projections as an external expert has challenged the assumptions and results.

The financial requirements

If the business plan is telling a story, this is the punch line. There is very little point devoting all the effort into setting out the opportunity, the product and the team if you are not going to ask the reader for what you want. It would be like reaching the end of a fairy tale and the prince not asking the princess to marry him.

Being careful not to make an explicit offer, you should set out the needs of your business and the methods you propose to satisfy them. This might include descriptions of how much the financing will rely on debt as opposed to equity investment, whether investment is required in stages or in one lump sum. If you have not described an exit strategy elsewhere in the document, it could be included here.

The executive summary

The executive summary is the first part of any plan, but I have included it at the end of the list because it should be the last thing you write.

The executive summary determines whether the rest of the document even gets read at all. It should be short, a maximum of two pages, and should include all the key elements from the other sections of your plan.

It needs to be powerfully persuasive but realistic. You should try to avoid 'sales speak' and hype. It should also stand alone. Sometimes you may be asked to send an investor an executive summary, if they like what they see, they might then ask to see the whole document.

7.2 How should the plan be prepared?

The most important thing about your business plan's presentation is that it should be readable. This means you should avoid the use of jargon and clearly explain any technical terms. You might want to include a glossary of terms if your business is technically orientated.

It is also very important to remember who you are writing the plan for. Think about who they are, what they want to know, what action you want them to take and what language will they understand? It may even be necessary for you to generate different versions of the plan to show to different audiences.

The use of colour, pictures and diagrams can help the reader understand the main points quickly. If you have a prototype, or even a finished product, include a photograph or screen shot to show reader that there is substance behind the words.

You should also take care with your use and presentation of numbers. For example if I write that the number of units bought by the market last year was 3675429, it is not at all easy to read. Something as simple as adding a few commas so that it becomes 3,595,429 makes it a little easier but how relevant is the precision of the number? 3.6m is a lot clearer, as is 'more than three and half million units...' Tables of numbers should be treated in the same way, show financial projections in thousands.

Generally the business plan for a start-up company should not be longer than 10 or 15 pages. The reader should be able to read it in one sitting and not get bored by the time they reach the end. To achieve this length whilst still providing all the information, you should make use of appendices to back up the points made in the main text. If in doubt as to whether to include something, leave it out. If the reader is interested and has more questions, they will ask

you. At that point you could argue that the plan has done its job, it has raised interest and you are now talking to its target audience.

The physical appearance of the business plan is also very important. The appearance of the plan reflects on you and your business. It should not contain any spelling or grammatical errors. Mistakes like these have a disproportionately negative impact and suggest lack of care and attention to detail.

The presentation of the plan is complex and easy to get wrong. You need to strike a balance between making a good impression and looking flashy. If the reader feels that you have wasted good money on a flashy cover or binding, the wrong message will be given. The ideal look should show that you are professional, competent but not extravagant.

How do you make business presentations?

Making business presentations can be a nerve racking occasion. Popular television programmes may portray the worst examples of investors dismantling aspiring business people, but the reality can be close to this. Fortunately, if you are properly prepared and knowledgeable about your opportunity and plans, it is entirely likely that the experience will be positive and hopefully rewarding. Remember that they have invited you in because they are interested in your plan. They have far better things to do with their time than use you for sport.

The first thing to do when preparing to make a presentation, is to find out who you will be presenting to, how much time you have and what you think they want to know. Most presentations will involve you talking for about 20 minutes followed by questions and discussion. Remember that they are likely to be busy people and appreciate concise presentations, if you bore them or take up too much time, they will not be impressed.

Your formal presentation should cover the main aspects of the business plan, probably in the same logical order in which you have laid out the document. Using a presentation package and laptop to show slides is a good way of structuring the presentation. It is best to make sure that your presentation can be projected rather than have people huddle around a small screen. Ask if they have a projector available, if not, consider taking one with you, even if that means hiring one for the day.

It can be a good idea to involve a number of people in the presentation. Going in with a team of three or four people shows your commitment and ensures that the appropriate people are on hand to answer questions. Try to keep the actual presenters down to one or two. Your show can lose its flow if too many people take it in turns to talk.

If possible, take examples of your work or products with you. Let the audience try it out, touch and feel it and understand what progress you are making.

When you are making presentations to small groups, perhaps even to one person, do not be surprised if they start asking questions during your talk. There are two approaches you can take, one approach is to ask them politely to let you finish and keep questions to the end. The second, and better approach, is to take the questions as they come but try to steer the conversation back to the current slide and then continue with your planned presentation. Try not to let this disturb you, they must be interested to have asked the question, asking them to wait can be very off-putting.

Like many aspects of business, presentations are made easier and more effective with good preparation. Do a practice run and time yourself, write prompt cards to ensure you don't miss anything, but don't read from a script, this looks like you don't know the material well enough. Make sure you arrive with plenty of time to set yourself up and get the projector working. Finally, while you are

waiting for the audience to join you, keep your team conversations professional and positive – walls can sometimes have ears.

8 Your role and your team

In both the earlier sections covering what investors are looking for and writing your business plan, the importance of the team has been highlighted. The attractiveness of the market and the brilliance of your solution will not overcome the mistakes made by lack-lustre management.

Many start-up companies are conceived by entrepreneurs. These individuals are passionate about the product, they have ultimate faith and belief in it and are often equally confident about their own abilities to succeed. They tend to be charismatic and able to explain their vision in encouraging ways that bring people along with them. They have energy and enthusiasm and are often highly ambitious about what they want to achieve. They are just what a start-up company needs to get going.

Unfortunately the entrepreneurial personality has a darker side. They can be arrogant, argumentative and find it very difficult to see projects through, continually coming up with new ideas and directions. The start-up company will quickly fail if the entrepreneur is not supported by a team that can keep the company's focus and deliver against the plan.

Together the team needs a set of attributes including creative flare, determination, ability to deliver and empathy for the customers needs. Some of these attributes can be provided from outside of the core team in the form of advisors and mentors. However, if all of these attributes are not available to your start-up, you could be heading for trouble.

It may seem an obvious point, but the team should also get on well together and enjoy the process of planning and building the business. You need to think 'I would enjoy working with them' as well as 'they will be good for the business'.

8.1 What do you want to achieve?

This can be a difficult question, but you need to be totally honest with yourself in answering it. Do you have a mission to serve a particular market, or change a particular industry? Maybe you want to bring a particular product or service to market, or convert your hobby into your job.

Many start-up businesses are formed because the owner wants to work for themselves rather than for an employer. This is a very valid reason and is becoming a more and more popular dream. If this is your goal, you should ask yourself whether you still want to work in the business as opposed to working on the business. If you are successful, you may find that you are forced to spend less and less time doing the job you want to do and more and more time running the business and becoming the employer. How you build your team and what objectives you set will be heavily influenced by the conclusion you come to.

Imagine for example, that your hobby is furniture building. You create a start-up company to build and sell high quality furniture. To make enough money, your model shows you will need three staff, one full time business person, selling the products to individuals and distributors, and two craftsmen to handle the design and manufacture. If you decide to work on the business, you take the role of business person handling the sales, marketing and business development. You therefore employ two craftsmen. Alternatively, if you decide to work in the business, you take a craftsman role, take on a second to assist you and employ a business manager to actually run the business. The difference in

these two approaches is radical, you need to think carefully about what you want from your business.

Starting a new business is always risky, but how much risk are you willing to expose yourself to? If you are leaving your current employment, how long can you last on your savings before the new business can afford to pay you? It may be worth seeing if you can work part time until the new venture is up and running. Your existing employer may not be delighted with you cutting your hours, but compared to losing you completely, they might accept it. Depending on what your business is going to offer, your old employer may end up as one of your clients.

You need to ask yourself what you are prepared to put into the business personally. How much of your hard earned personal wealth are you prepared to risk on the venture? How much of your savings are you prepared to invest in the business? Will you re-mortgage your house?

Beyond the financial commitments, how much blood, sweat and tears are you prepared to invest? You should not under estimate the amount of time starting a new company will absorb. Evenings, weekends and family holidays are all likely to suffer. An important part of this analysis is whether those you love are prepared to accept these commitments and risks too.

8.2 Satisfying the critical success factors

Critical success factors are the few things that in any industry make the difference between success and failure. Identifying these factors is not only an important way of ensuring your business is a success, but also of identifying the attributes of the team you need to build to make it happen.

Back in chapter 4, you carried out a risk analysis of the technical and commercial problems that could be encountered as part of the

development of your marketing plan. Now we need to extend that exercise to include the managerial risks that you and team are likely to encounter.

Just like in the technical and commercial risk analysis you will need to examine each risk in terms of a description, likelihood, impact, warning and mitigation.

The first set of risks is likely to come from your ability to attract, recruit and retain the key members of staff you need. What if:

- the right people do not apply for your vacancies?
- they demand higher pay than you had budgeted for?
- morale deteriorates?
- key personnel are attracted elsewhere?

The businesses attitude to quality is the next area to examine. This is addressed here because it affects the whole business not just the quality of the product. Quality impacts on everything from how the telephones are answered, how clean the premises are kept, how promptly bills are paid to how regularly the management team meets. What if:

- standards start to slip?
- nobody cares?

A large area of managerial risk is centered around the legal side of the operation. There are areas of risk attributed to litigation, liability, insurances, environmental responsibilities, taxation, regulatory changes, intellectual property protection and employment law. What if:

- new employment or commercial laws come into effect?
- your product harms someone?
- you infringe someone else's intellectual property rights?

The next area of managerial risk concerns strategic risks. What if:

- the market dynamics change?
- opportunities for growth present themselves?

- management is too busy to think strategically?

Last but by no means least; we need to examine the financial risks. Financial risks will come from problems with cash flow, potential insolvency and investment requirements. What if:

- customers are late to pay you?
- suppliers demand earlier payment?
- growth increases beyond expectation?
- cash runs out?
- investment takes longer than expected to raise?
- loans are difficult to secure?

Once all the risks have been identified identify the critical ones by looking for the show-stoppers and expanding on your analysis and mitigation strategies.

When you are building your team, look for evidence that they have a track record of identifying and acting on the critical success factors you have identified. When drawing up who is responsible for what in your team, make sure that each critical factor has someone's name against it.

8.3 How important is experience

There is no doubt that an experienced team can greatly improve the chances of success for a new business. There are, however many successful businesses which were built by teams with little prior business experience, although in many cases, they did not do it entirely alone. An inexperienced team can still be successful but their chances of success are greatly enhanced by taking advice from others.

Business angels, non-executive directors and mentors are all excellent sources of experience. These individuals need not even come from the same market or industry to be able to make good suggestions covering everything from corporate structure to

marketing. If you do not have an experienced team you would be very well advised to take on a mentor or non-executive director to help you.

Mentors can be found in many guises. Some business support organisations operate mentor services. They will identify a suitable person for you and make an introduction. Alternatively, you could approach someone yourself who you feel could help you.

In general a mentor is a personal advisor to you, rather than to your company. When you select a potential mentor, you are looking for someone with great experience, someone who will understand the point of your product or service and someone who you feel you can get on with.

Non-executive directors are different in that they take on legal responsibilities and so focus their advice to the company rather than you personally.

8.4 Networking

Networking has always been an important part of business. More recently it has become an industry in its own right with the formation of commercially run networking groups and services.

Networking is important because you and your business need to be connected to the market, the industry and the business community. You need to be well connected with the supplier base that supports your industry. This allows you to select the right suppliers and keep up with trends and developments that will affect your business. You obviously need to be well connected with your customers, but you also need to be well informed about your competitors and the way the market is developing.

Trade shows and exhibitions are an important opportunity to make contacts and keep up to date with the industry. Even if you are not

ready to take a stand and market your wares, it is important for you and your team to attend in order to meet people and introduce yourselves. Trade associations are also an excellent way of becoming known in the industry, making contacts and keeping up to date with the market and industry issues.

Business groups are also worth considering. There are a large number of these that operate on local levels, all the way up to national and beyond. These provide excellent opportunities to keep up to date with business trends and issues. It may be that there is no other person in the room working in the same sector as you, but you are all affected by similar outside influences such as changes in employment law, local planning problems or how to grow your businesses. Since there is little aspect of competition, the exchange of ideas and thoughts can be very productive.

Many of these events and other services are provided by professional institutions, joining an appropriate institute and making good use of the services on offer can be very valuable.

9 Closing remarks

Look back over the ground we have covered in this book. We started by carrying out a thorough analysis of the strength and potential of your business idea. We looked at what problem you are going to solve for your customers and started to think about who and where they are. We separated the market from the industry and looked at the competitive landscape you will find yourself in and how you will compete for your share of the market. We concluded with the soul searching question – do you have a business?

Having established that there is a solid platform on which to build your business, we next explored the methods and costs of protecting your valuable intellectual property rights. We showed how these rights are important not just to protect your business but also your investors.

The legal status of the company was the next topic together with the responsibilities and duties that you will take on when you start your company, some of the responsibilities are quite rightly arduous so we know that starting a company is a serious undertaking.

Next we took a close look at markets and marketing and discovered that we can't simply invent a better mouse trap and wait for the door bell to ring. We saw how different market groups behave and developed strategies to move the product from one to the next.

Having set the scene for what our business was for, we started a long look at the financial aspects of starting a company. We saw how cash flow drives the business and explored the various ways of

raising money for the business. We took a detailed look at venture capital to understand the needs of these investors as well as what they have to offer. We then constructed a full financial model for a start-up business to understand how to forecast sales and cost the growth of the business.

We looked at business plans and presentations to see how investors and other interested parties would expect to be approached and what to expect when you meet them. Finally we looked at the role of you and your team and where you could find support and advice as you take your business forward. Throughout, we have seen how important external support and expertise is going to be. Lawyers, patent agents, accountants, mentors and advisors all have a crucial role in your future.

The next steps are up to you. Hopefully you now have an appreciation of what is involved in starting your business. The rewards and the satisfaction can be great but the effort and determination need to come from you if you are to succeed. I wish you the best of success in all your business endeavours.

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